

UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF NEW YORK

MIDWEST ATHLETICS AND SPORTS
ALLIANCE LLC,

Plaintiff,

v.

XEROX CORP.,

Defendant.

DECISION AND ORDER

6:19-CV-06036 EAW

INTRODUCTION

Plaintiff Midwest Athletics and Sports Alliance LLC (“Plaintiff”) alleges that Defendant Xerox Corp. (“Defendant”) has infringed the following 20 patents related to printer technology: United States Patent Nos. 6,203,005 (the “3005 Patent”); 6,305,684 (the “684 Patent”); 6,411,314 (the “314 Patent”); 6,462,756 (the “756 Patent”); 6,509,974 (the “974 Patent”); 6,718,285 (the “285 Patent”); 6,724,998 (the “998 Patent”); 6,799,005 (the “9005 Patent”); 6,909,856 (the “856 Patent”); 6,993,278 (the “278 Patent”); 7,658,375 (the “375 Patent”); 8,019,255 (the “255 Patent”); 8,220,795 (the “795 Patent”); 8,554,089 (the “089 Patent”); 8,591,022 (the “022 Patent”); 8,634,113 (the “113 Patent”); 8,805,239 (the “239 Patent”); 7,502,582 (the “582 Patent”); 7,720,425 (the “425 Patent”); and 8,005,415 (the “415 Patent”) (collectively the “Asserted Patents”). (*See* Dkt. 128 at 1).

Pursuant to this District's Local Patent Rules, on December 9, 2019, the parties identified 64 disputed claim terms, found in 17 of the Asserted Patents, for construction by the Court. (Dkt. 128).¹ The parties further identified three claim terms as to which they have agreed upon a proposed construction. (*Id.* at 2). The Court's resolution of the parties' claim construction contentions is set forth below.

PROCEDURAL BACKGROUND

Plaintiff commenced this action on December 13, 2017, in the United States District Court for the District of Nebraska. (Dkt. 1). The matter was transferred to this District on January 11, 2019. (Dkt. 76). The undersigned referred the matter to Magistrate Judge Jonathan W. Feldman for supervision of all pretrial matters excluding dispositive motions on January 28, 2019. (Dkt. 79).² Judge Feldman thereafter appointed Susan E. Farley, Esq. (the "Special Master") as a special master. (Dkt. 102; Dkt. 106; Dkt. 108).

On November 14, 2019, Judge Feldman entered an Order adopting the Special Master's recommendation, agreed to by the parties, that in the claim construction phase of the instant litigation, Plaintiff would "elect to proceed with no more than fourteen (14)

¹ As discussed more fully below, certain of these disputes were subsequently withdrawn or resolved by the parties.

² Following Judge Feldman's retirement, the matter was referred to Magistrate Judge Mark W. Pedersen. (Dkt. 119). Judge Pedersen subsequently recused himself, and the matter was referred to Magistrate Judge Marian W. Payson, who continues to supervise non-dispositive matters. (Dkt. 147; Dkt. 148).

terms to be construed by the Court” and Defendant would “elect to proceed with no more than sixty (60) terms to be construed by the Court[.]” (Dkt. 118 at 3).³

On December 9, 2019, in accordance with Local Patent Rule 4.4(a), the parties filed a Joint Claim Construction and Prehearing Statement. (Dkt. 128) (the “Joint Statement”). In the Joint Statement, the parties identified three claim terms as to which they jointly proposed constructions. (*Id.* at 2). The parties further identified 64 claim terms (the “Terms”) as to which there was a construction dispute. (*See* Dkt. 128-1; Dkt. 128-2). The parties indicated pursuant to Local Patent Rule 4.4(a)(5) that they did not anticipate presenting any live witnesses at the claim construction hearing and would instead submit expert opinion in the form of expert declarations. (Dkt. 128 at 3-4).

Plaintiff filed its opening claim construction brief on February 7, 2020. (Dkt. 155). Defendant filed its opening claim construction brief on March 9, 2020. (Dkt. 162). In these filings, the parties withdrew from the Court’s consideration Terms 17, 28, 37, 53, and 63. (*See* Dkt. 155-2; Dkt. 162-2). Plaintiff filed its reply claim construction brief on March 24, 2020 (Dkt. 163), and Defendant filed its sur-reply claim construction brief on April 8, 2020 (Dkt. 164). After some delays and rescheduling due to the COVID-19 pandemic, a claim construction hearing was held by video on October 27, 2020, at which time the Court reserved decision. (Dkt. 184).

³ Plaintiff has filed objections (Dkt. 157) to a separate aspect of the Special Master’s recommendation regarding case narrowing (Dkt. 149). Those objections are fully briefed and will be decided by the Court in due course.

THE CLAIMS AT ISSUE

For ease of reference, the Court sets forth below the claims at issue in the instant claim construction dispute. The Court has listed the relevant Asserted Patents in the order set forth in the charts appended to the parties' Joint Statement. (Dkt. 128-1; Dkt. 128-2).

I. The '375 Patent

The '375 Patent issued on February 9, 2010, and is entitled "Printer and Dual Trays for Image Receiver Media Sheets." (Dkt. 155-18 at 2). It relates generally to "improvements in image receiver media trays and the interface between such trays and the printer." (Dkt. 162-8 at ¶ 58 (citation omitted)).

The parties dispute the construction of terms contained in independent claim 1 of the '375 Patent, which provides as follows:

[Claim 1:] A printer comprising: a marking mechanism for producing an image on media sheets; first and second trays adapted to receive media sheets; a sheet feeding mechanism with a drive for advancing media sheets past the marking mechanism, said sheet feeding mechanism having a picker to remove media sheets from trays; a media load position for each of said first and second trays at which the trays are accessible to an operator for inserting a supply of media sheets; a media pick position for each of said first and second trays at which the trays are aligned with the picker; and a mechanism adapted to selectively move each of said first and second trays between its media load position and its pick position, said trays being aligned side by side when both at their pick positions such that the picker can simultaneously remove a sheet from each tray.

(Dkt. 155-18 at 18).

II. The ‘795 Patent

The ‘795 Patent issued on July 17, 2012, and is entitled “Printer and Dual Trays for Image Receiver Media Sheets.” (Dkt. 155-19 at 2). It relates generally to “home and office printers, and more specifically to improvements in image receiver media trays and the interface between such trays and the printer.” (Dkt. 155-4 at ¶ 25 (citation omitted)).

The parties dispute the construction of terms contained in independent claim 1 of the ‘795 Patent, which provides as follows:

[Claim 1:] A printer comprising: a marking mechanism for producing an image on media; a tray for sheets of image receiver media; a sheet feeding mechanism including a drive for advancing the sheets of image receiver media past the marking mechanism, said sheet feeding mechanism having a picker to remove the sheets of image receiver media from an aligned tray; a media load position at which the tray is accessible to an operator for inserting a supply of the sheets of image receiver media; a media pick position at which the tray is aligned with the picker; a tray moving mechanism adapted to selectively move the tray between the media load position and the media pick position; and a transmission (1) engagable to connect the drive of the sheet feeding mechanism to the tray moving mechanism, whereby the tray is moved between the pick position and the media load position by the drive and (2) disengagable to enable advancement of the sheets of image receiver media without movement of the tray.

(Dkt. 155-19 at 18).

III. The ‘255 Patent

The ‘255 Patent issued on September 13, 2011, and is entitled “Alignment Method for a Plurality of Coupled Digital Print Engines.” (Dkt. 155-5 at 2). It relates generally to “methods and systems for aligning printing engines in a printing system.” (Dkt. 162-8 at 62).

The parties dispute the construction of terms contained in independent claims 1 and 12 of the ‘255 Patent, which provide as follows:

[Claim 1:] A method to align an electrophotographic printing engines in a plurality of different print assemblies that are each capable of printing on a receiver to form one or more final prints to form an apparatus for digital printing including corrections for cross-track misregistration comprising: measuring each of the print assemblies to determine the location of a fixed component of the module relative to a receiver path in the x, y and z directions; aligning two or more printing engines in an x and y direction by providing alignment features on the printing assemblies that align the assemblies in an x and y direction according to the measurements and that position the assemblies within a range of positions along the z direction; aligning a first printing engine to a second printing engine in a cross track direction (z direction) based on a cross (z direction) position of the receiver as measured by the second engine and the measuring of the printing modules.

[Claim 12:] An apparatus for digitally printing comprising: a plurality of electrophotographic printing engines each in one of two or more of different print assemblies that are capable of printing on a receiver to form one or more final prints wherein the print engines are alignable in an x, y, and z direction relative to a receiver path cross track reference for sequentially printing on a receiver wherein the receiver path cross track reference is based on measurements in the cross track direction (z direction) relative to the receiver path cross track reference; a measurement device to measure a location of a receiver in the receiver path at a final one of the sequences of print assemblies; and an alignment device to align the two or more printing engines in the cross track direction (z direction) relative to the receiver path cross track reference based on the measurement.

(Dkt. 155-5 at 17).

IV. The ‘089 Patent

The ‘089 Patent issued on October 8, 2013, and is entitled “Job Error Correction in a Multicolor Electrophotographic Print Engine.” (Dkt. 155-20 at 2). It “relates to methods

and systems for an electrophotographic print engine that can print images using a module the patent calls a ‘multi-development station.’” (Dkt. 162-2 at ¶ 64).

The parties dispute the construction of terms contained in independent claims 1 and 5 of the ‘089 Patent, which provide as follows:

[Claim 1:] A method of printing using an electrophotographic print engine including a single development module that can develop a single toner on a primary imaging member of the single development module and a multi-development module that can develop either one of two toners on a primary imaging member of the multi-development module, the method comprising: determining a combination of toners required to form an image according to a job specification; determining that the combination of toners includes two toners in the multi-development module, developing and transferring first toner separations onto a receiver including a first one of the two toners in a development station of the multi-development module passing the receiver through the print engine a second time; developing and transferring a color separation using the other of the two toners in the multi-development module onto the first toner separations; and determining that the identified combination of toners does not include two toners in two development stations in the multi-development module, forming and transferring a first combination of the identified toner separations onto the receiver and diverting the receiver to at least one of an inverter and an exit.

[Claim 5:] An electrophotographic print engine comprising: a single development module capable of developing one toner on a primary imaging member in the single development module; at least one multi-development module having two development stations capable of developing one of two toners on a primary imaging member in the multi-development module; and a path that moves a receiver past the print engine and a return path that returns the receiver to the development modules; a control unit arranged such that the control unit determines a combination of toners required to form an image according to a job specification and that the combination of toners includes two toners in the multi-development module, developing and transferring first toner separations onto the receiver including a first one of the two toners in the multi-development module with the controller further being arranged to cause the receiver to pass through the print engine a second time to allow a color separation to be developed using the other of the two toners in the

multi-development module and transferred onto the first toner separations; and wherein the controller is further arranged to determine that the identified combination of toners does not include two toners in the two development stations in the multi-development module, forming and transferring a first combination of the identified toner separations onto the receiver and diverting the receiver to at least one of an inverter and an exit.

(Dkt. 155-20 at 26-27).

V. The ‘582 Patent

The ‘582 Patent issued on March 10, 2009, and is entitled “Method and Apparatus for Printing Using a Tandem Electrostographic Printer.” (Dkt. 155-10 at 2). It relates “to methods and systems for printing using five or more color pigments, and applying a clear toner overcoat in addition to the five or more color pigments.” (Dkt. 162-8 at ¶ 54).

The parties dispute the construction of terms contained in independent claims 1 and 5 of the ‘582 Patent, which provide as follows:

[Claim 1:] A method of printing to form colored images with improved color gamut and enhanced gloss, the method comprising: forming a color print using five or more different color pigments which in combination form at least a pentachrome color image; depositing a clear toner overcoat to the at least pentachrome color image, wherein the clear toner overcoat is formed as a receiver and image dependent inverse mask; and subjecting the clear toner overcoat and the at least pentachrome color image to a gloss enhancing process.

[Claim 5:] A method of printing to form colored images with improved color gamut and enhanced gloss, the method comprising: forming a color print using five or more different color pigments which in combination form at least a pentachrome color image, wherein the at least pentachrome color image is formed in a single pass through a printer apparatus; depositing a clear toner overcoat to the at least pentachrome color image, wherein the clear toner overcoat is formed as a receiver and image dependent inverse

mask: and subjecting the clear toner overcoat and the at least pentachrome color image to a uniform gloss enhancing process.

(Dkt. 155-10 at 18).

VI. The ‘415 Patent

The ‘415 Patent issued on August 23, 2011, and is entitled “Method and Apparatus for Printing Using a Tandem Electrostographic Printer.” (Dkt. 155-12 at 2). It relates “to methods and systems for printing using five or more color pigments, and applying a clear toner overcoat in addition to the five or more color pigments.” (Dkt. 162-8 at ¶ 54).

The parties dispute the construction of terms contained in independent claims 1 and 9 and dependent claims 5 and 10 of the ‘415 Patent, which provide as follows:

[Claim 1:] A system for printing color images comprising: a tandem color electrostatographic printer apparatus having five or more color printing stations for applying respective color separation toner images to a receiver member passing therethrough in a single pass to form a pentachrome color image: a fusing station for fusing the pentachrome image: a clear toner overcoat printing station for applying a clear toner overcoat to the fused pentachrome toner image: and a belt glosser for providing enhanced gloss to the pentachrome color image having the clear toner overcoat.

[Claim 5:] The system of claim 1 and wherein a controller controls operating components so that the clear toner is applied in accordance with an inverse mask application onto the pentachrome color toner image.

[Claim 9:] A gloss enhancement apparatus comprising: a clear toner depositing module for forming a clear toner overcoat upon a color image that is supported on a receiver sheet; and a belt glosser operatively associated with the clear toner depositing module for receiving the overcoated receiver sheet directly from the depositing module and treating the overcoated receiver sheet to pressure and heat imposed by the belt upon the clear toner overcoat to enhance the resulting gloss of the print.

[Claim 10:] The apparatus of claim 9 and wherein a controller controls the clear toner-depositing module so as to form an inverse mask clear toner overcoat upon the color image.

(Dkt. 155-12 at 18).

VII. The ‘425 Patent

The ‘425 Patent issued on May 18, 2020, and is entitled “Method and Apparatus for Printing Using a Tandem Electrostatographic Printer.” (Dkt. 155-11 at 2). It relates “to methods and systems for printing using five or more color pigments, and applying a clear toner overcoat in addition to the five or more color pigments.” (Dkt. 162-8 at ¶ 54).

The parties dispute the construction of terms contained in dependent claim 10 of the ‘425 Patent, which provides as follows:

[Claim 1:] In a tandem color electrostatographic printer apparatus having five or more color printing stations for applying respective color separation toner images to a receiver member, a method of forming a pentachrome color image comprising: passing a receiver member through the printer apparatus to serially deposit thereon in a single pass at least five different colors which form various combinations of color at different pixel locations to form a pentachrome image thereon; a first fusing step of fusing the pentachrome image by passing the receiver member through a fuser station; passing the receiver member a second time through the printer apparatus, and depositing a clear toner overcoat to the fused pentachrome toner image; and a second fusing step of passing the receiver member with the clear toner overcoat and fused pentachrome toner image again through the aforementioned fuser station to fix the clear toner overcoat to the receiver member.

[Claim 10:] The method of claim 1 and wherein the clear toner is applied in accordance with an inverse mask application onto the pentachrome color toner image.

(Dkt. 155-11 at 18).

VIII. The ‘998 Patent

The ‘998 Patent issued on April 20, 2004, and is entitled “Image Forming Apparatus with Variable Toning Bias Offset Service Utility.” (Dkt. 155-13 at 2). It “identifies how different values of primary charging voltage and/or toner bias offset voltage can be used to help diagnose issues with the printer.” (Dkt. 162-8 at ¶ 46).

The parties dispute the construction of terms contained in independent claims 1 and 2 of the ‘998 Patent, which provide as follows:

[Claim 1:] An image forming apparatus comprising: a primary charger for providing a primary charging voltage on an image support, an image support for supporting an electrostatic latent image on the surface thereof; a developing unit having a developing agent support, the developing agent support retaining a developing agent, including toner and carriers, contained in the developing unit, and the developing unit converting the latent image on the image support into a toner image by causing the toner to adhere to the surface of the image support, a developing bias supplying unit for supplying a developing bias voltage to the developing agent support of the developing unit; and, a controller for setting the developing bias voltage and primary charging voltage at predetermined values undesirable for normal image forming operation in order to provide diagnostic information on the image forming apparatus.

[Claim 2:] A method of operating an image forming apparatus comprising the steps of: providing a primary charging voltage on an image support, supporting an electrostatic latent image on the surface of the image support, causing toner of a developing agent to adhere to the surface of the electrostatic latent image to thereby convert the latent image on the image support into a toner image; supplying a developing bias voltage to the developing agent, and setting the developing bias voltage and primary charging voltage to predetermined values undesirable for normal image forming operation in order to provide diagnostic information on the image forming apparatus.

(Dkt. 155-13 at 11).

IX. The ‘856 Patent

The ‘856 Patent issued on June 21, 2005, and is entitled “Functionality Switching for MICR Printing.” (Dkt. 155-14 at 2). It “is directed to an electrographic printing machine that is aware of the type of toner to be used.” (Dkt. 162-8 at ¶ 50 (quotation omitted)).

The parties dispute the construction of terms contained in independent claims 1 and 14 and dependent claim 2 of the ‘856 Patent, which provide as follows:

[Claim 1:] A method of operating an electrographic printing machine, comprising the steps of: installing one of a plurality of toning stations into the printing machine, each of the plurality of toning stations associated with a toner type, and having an indicator corresponding to the toner type, sensing the indicator of the installed one of the plurality of toning stations to determine the toner type of the installed one of the plurality of toning stations, responsive to the sensing step determining that the installed one of the plurality of toning stations corresponds to toner of a first type, selecting a set of process setpoints associated with the toner of the first type, and operating the printing machine to electrographically print images using the selected Set of process setpoints and the installed one of the toning stations.

[Claim 2:] The method of claim 1, wherein the indicator comprises a resistor of a selected value; and wherein the sensing step comprises: applying an electrical input to the indicator; measuring an electrical signal from the indicator responsive to the applying step; and determining the toner type by comparing the measured electrical signal to preselected values.

[Claim 14:] An electrographic printing machine, comprising: a photoconductor; a primary charging station for charging a surface of the photoconductor; an exposure station for exposing selected pixel locations of the surface of the photoconductor; a transfer station for transferring toner from the surface of the photoconductor to a medium; at least one motor for advancing locations of the surface of the photoconductor among the primary charging station, exposure station, developing station, and transfer station; and a plurality of toning stations for applying toner to the exposed selected

pixel locations of the surface of the photoconductor, each of the plurality of toning stations associated with toner of a specific type, and each of the plurality of toning stations having an indicator indicating the associated toner type for the toning station; and logic and control circuitry, for sensing the indicator of an installed one of the plurality of toning stations to determine the toner type of the installed toning station, and for controlling the operation of the printing machine responsive to the determined toner type.

(Dkt. 155-14 at 11).

X. The ‘278 Patent

The ‘278 Patent issued on January 31, 2006, and is entitled “Fixing Device Transport for a Digital Printer or Copier Machine.” (Dkt. 155-22 at 2). It “relates to a digital printer or copier machine for the single-sided or double-sided printing of a substrate, the machine including a substrate transport device having a mesh suction belt.” (Dkt. 162-8 at ¶ 52 (quotation omitted)).

The parties dispute the construction of terms contained in independent claim 1 of the ‘278 Patent, which provides as follows:

[Claim 1:] Digital printer or copier machine for the single-sided or double-sided printing of a substrate using at least one toner, with at least one fixing device for fixing the toner onto the substrate, whereby the fixing device has at least one heating device for fusing the toner, and with at least one transport device, in order to supply the substrate to the heating device, to guide it past the heating device and/or to further transport it from the heating device, whereby the transport device has at least one suction belt that has a number of through passage openings and that can be impinged with a vacuum, characterized in that the suction belt is constructed as a mesh having stays forming through-passage openings, the entire cross-section flow-through area of said through-passage

(Dkt. 155-22 at 10).

XI. The ‘3005 Patent

The ‘3005 Patent issued on March 20, 2001, and is entitled “Feeder Apparatus for Documents and the Like.” (Dkt. 155-15 at 2). It deals generally with “an apparatus for engaging and removing a sheet of paper or other material from a stack and feeding it along a path. The system generally consists of a skimmer, a bumper, a separator, and a guide plate.” (Dkt. 162-8 at ¶ 32 (quotations and citation omitted)).

The parties dispute the construction of terms contained in independent claim 1 of the ‘3005 Patent, which provides as follows:

[Claim 1:] A sheet feeder comprising: (a) a skimmer for engaging and removing a sheet from one end of a stack of sheets and feeding the engaged sheet edgewise along a feed path, said skimmer comprising a first friction element including a generally cylindrical endless rotating peripheral surface carried on a support defined at least in part by a rotating shaft; (b) a separator spaced downstream along the feed path from the skimmer for advancing the engaged sheet while retarding any adjacent sheets, and (c) a first guide plate extending between said skimmer and said separator substantially parallel to said feed path to guide the engaged single sheet substantially along the feed path, preventing buckling of the engaged single sheet perpendicular to the feed path, wherein said first guide plate is supported at least in part by and mounted to be pivotable independent of the rotation of said rotating shaft with respect to said support.

(Dkt. 155-15 at 22).

XII. The ‘285 Patent

The ‘285 Patent issued on April 6, 2004, and is entitled “Operator Replaceable Component Life Tracking System.” (Dkt. 155-21 at 2). It “relates to the maintenance of printer systems, and more particularly to methods and systems for operator maintenance of

printing systems that include Operator Replaceable Component (ORC) devices that have a predictable lifetime before the ORC devices have to be replaced.” (Dkt. 162-8 at ¶ 44 (quotation omitted)).

The parties dispute the construction of terms contained in independent claim 1 and dependent claim 5 of the ‘285 Patent, which provide as follows:

[Claim 1:] A system with operator enabled maintenance comprising: at least one computational element within said system; a plurality of operator replaceable component (ORC) devices within said system, each of said ORC devices having an expected life span; a use mechanism coupled to each said computational element and said ORC devices, said use mechanism tracking use of at least one of said ORC devices using a predetermined parameter; a comparison mechanism that compares use of said ORC devices to said expected life span; and an operator alert mechanism responsive to said comparison mechanism to provide said operator alert when the result of said comparison satisfies a predetermined parameter representing at least one of said expected life spans where said expected life span for a single of said ORC devices is the shortest expected life span.

[Claim 5:] The system of claim 1, wherein said system is a printing device and wherein said predetermined parameter of said use mechanism is the number of pages printed.

(155-21 at 13).

XIII. The ‘239 Patent

The ‘239 Patent issued on August 12, 2014, and is entitled “Actuation Device for Pressure Rollers.” (Dkt. 155-16 at 2). It “relates to a device for . . . moving a bank of pressure rollers into and out of contact with a corresponding bank of counter rollers in a printing machine.” (Dkt. 162-8 at ¶ 66).

The parties dispute the construction of terms contained in independent claims 1 and 16 of the ‘239 Patent, which provide as follows:

[Claim 1:] A device for moving a plurality of pressure rollers relative to respective counter rollers in a printing machine, said device comprising: a plurality of movably supported pressure roller carriers, each supporting respectively one pressure roller, said pressure roller carriers being movable between a contact position and a non-contact position, with each of said pressure roller carriers being biased via a biasing unit in a direction of the contact position; and at least one actuation element connecting at least two pressure roller carriers to a shared actuation device, wherein the pressure roller carriers are adapted to automatically move to the non-contact position when the actuation device is in its non-energy mode.

[Claim 16:] A device for moving a plurality of pressure rollers relative to respective counter rollers in a printing machine, said device comprising: a plurality of movably supported pressure roller carriers, each supporting respectively one pressure roller, said pressure roller carriers being movable between a contact position and a non-contact position, with each of said pressure roller carriers being biased via a biasing unit in the direction of the contact position; and at least one actuation element connecting at least two pressure roller carriers to a shared actuation device: wherein the pressure roller carriers are in the non-contact position when the actuation device is in its non-energy mode, with the actuation device comprising an actuation device of the group comprising the following: a pneumatic actuation device, a hydraulic actuation device or an electromagnetic actuation device.

(Dkt. 155-16 at 14-15).

XIV. The ‘314 Patent

The ‘314 Patent issued on June 25, 2002, and is entitled “System and Method for Representing and Controlling a Production Printing Workflow.” (Dkt. 155-7 at 2). It relates generally to “systems and methods for the control of printer workflows.” (Dkt. 162-8 at ¶ 39).

The parties dispute the construction of terms contained in independent claims 1, 26, 51, and 62 of the '314 Patent, which provide as follows:

[Claim 1:] An interface, implemented in a computer, for representing and controlling a production printing workflow comprising: a display; a first document object representing a document, said document further comprising content and formatting, said formatting defining at least one page in said document, said first document object being associated with a first visual representation on said display; a document ticket object representing global document attributes, said document ticket object being associated with a second visual representation on said display and capable of being associated with said first document object; a page object representing a page attribute of one of said at least one page, said page object being associated with a third visual representation on said display and capable of being associated with said first document object; and a first user input device for selectively associating at least two of said first, second and third visual representations, wherein association of said first, second and third visual representations results in association of said respective objects.

[Claim 26:] An interface, implemented in a computer, for representing and controlling a production printing workflow comprising: a display; a first document entity representing a document, said document further comprising content and formatting, said formatting defining at least one page in said document, said first document entity being associated with a first visual representation on said display; a document ticket entity representing global document attributes, said document ticket entity being associated with a second visual representation on said display and capable of being associated with said first document entity; a page entity representing a page attribute of one of said at least one page, said page entity being associated with a third visual representation on said display and capable of being associated with said first document entity; and a first user input device for selectively associating at least two of said first, second and third visual representations, wherein association of said first, second and third visual representations results in association of said respective entities.

[Claim 51:] A method of controlling a production printing work-flow comprising: (a) displaying, on a display, a first visual representation of a first document object representing a document on a display; (b) displaying, on said display, a second visual representation of a document ticket object

representing global document attributes capable of being associated with said document; (c) selectively associating said first visual representation with said second visual representation; and (d) based on (c), linking said global document attributes with said document such that said global document attributes apply to said document.

[Claim 62:] A system for interfacing to and controlling a production printing workflow: means for receiving content and formatting instructions for formatting said content, said formatting instructions comprising instruction means for sub-dividing said content into one or more pages, means for receiving output instructions for controlling output of said content to an output device; means for representing said content and said formatting instructions on a display as a first manipulatable object; means for representing said output instructions on said display as a second manipulatable object; means for selectively associating said first manipulatable object with said second manipulatable object to associate said output instructions with said content and formatting instructions, and means for representing said association on said display as a third manipulatable object.

(Dkt. 155-7 at 20-22).

XV. The ‘756 Patent

The ‘756 Patent issued on October 8, 2002, and is entitled “System and Method for Visual Representation of Pages in a Production Printing Workflow.” (Dkt. 155-17 at 2). It relates generally to “systems and methods for the control of printer workflows.” (Dkt. 162-8 at ¶ 39).

The parties dispute the construction of terms contained in independent claims 1, 12, 23, and 29 of the ‘756 Patent, which provide as follows:

[Claim 1:] An interface, implemented in a computer, for representing and controlling a production printing workflow comprising: a display; a first document object representing a document, said document further comprising content and formatting, said formatting defining at least one page in said

document, said first document object being associated with a first visual representation on said display; a document ticket object representing global document attributes, said document ticket object being associated with a second visual representation on said display and capable of being associated with said first document object; a page object representing a page attribute of one of said at least one page, said page object being associated with a third visual representation on said display and capable of being associated with said first document object; a first user input device for selectively associating at least two of said first, second and third visual representations, and a second user input device for creating said page object, said second user input device operative to allow selection of said page attribute, setting of a value of said page attribute and selection of one or more of said at least one page in said document to apply said page attribute to wherein upon application, one or more of said page objects are created and associated with each of said one or more of said at least one page and said corresponding document object; wherein association of said first, second and third visual representations results in association of said respective objects, and further wherein said applied page attribute is visually represented on a visual representation of said one or more of said at least one page.

[Claim 12:] An interface, implemented in a computer, for representing and controlling a production printing workflow comprising: a display; a first document entity representing a document, said document to further comprising content and formatting, said formatting defining at least one page in said document, said first document entity being associated with a first visual representation on said display; a document ticket entity representing global document attributes, said document ticket entity being associated with a second visual representation on said display and capable of being associated with said first document entity; a page entity representing a page attribute of one of said at least one page, said page entity being associated with a third visual representation on said display and capable of being associated with said first document entity; a first user input device for selectively associating at least two of said first, second and third visual representations, and a second user input device for creating said page entity, said second user input device operative to allow selection of said page attribute, setting of a value of said page attribute and selection of one or more of said at least one page in said document to apply said page attribute to wherein upon application, one or more of said page entities are created and associated with each of said one or more of said at least one page and said corresponding document entity; wherein association of said first, second and

third visual representations results in association of said respective entities, and further wherein said applied page attribute is visually represented on a visual representation of said one or more of said at least one page.

[Claim 23:] A method of controlling a production printing workflow comprising: (a) displaying a first visual representation of a document on a display, said document further comprising content and formatting, said formatting defining at least one page in said document; (b) displaying a second visual representation of global document attributes capable of being associated with said document on said display; (c) associating said first visual representation with said second visual representation; (d) based on (c), linking said global document attributes with said document such that said global document attributes apply to said document; (e) displaying a third visual representation of a page attribute capable of being associated with one of said one or more pages on said display; (f) associating said third visual representation with said first visual representation; (g) based on (f), linking said page attribute with a corresponding one of said one or more pages such that said page attribute applies to said corresponding one of said one or more pages and wherein manipulation of said one of said or more pages manipulates said page attribute; (h) displaying a visual representation of said corresponding one of said one or more pages showing a visual representation of said applied page attribute.

[Claim 29:] A system for managing production printing workflow comprising: a receiver for receiving a document, said document comprising content and document formatting, said document formatting defining a plurality of pages of said content and wherein each of said plurality of pages is characterized by at least one page characteristic, a page attribute comprising a value and capable of being associated with a portion of said document that is less than the entire said document and capable of controlling one of said at least one page characteristic of said portion using said value; and a display; and wherein an association of a first representation of said page attribute to a second representation of said portion is visually displayed on said display by showing a third representation of said at least one page characteristic as applied to said portion.

(Dkt. 155-17 at 20-21).

XVI. The ‘9005 Patent

The ‘9005 Patent issued on September 28, 2004, and is entitled “Method and System of Pre-Selecting Ordered Media in a Printing System.” (Dkt. 155-8 at 2). It “relates to a method of pre-selecting ‘ordered media’—such as tabs—so that any unwanted parts of the ordered media are removed prior to printing.” (Dkt. 162-8 at ¶ 48).

The parties dispute the construction of terms contained in independent claims 1, 5, and 11 and dependent claims 4 of the ‘9005 Patent, which provide as follows:

[Claim 1:] A system for pre-selecting ordered media in a printing system, comprising: (a) an input source to store at least one set of the ordered media; (b) a user interface having an input device to select the ordered media from a paper catalog, and to pre-select a first part of the ordered media set to be used in a print job and a second unwanted part of the ordered media set to be discarded; (c) a first job output; (d) a second job output; and (e) a central processing unit configured to send the first part of the ordered media set directly to the first job output and the second part of the ordered media set directly to the second job output.

[Claim 4:] The system of claim 1 wherein the input source is a print tray.

[Claim 5:] A method of pre-selecting ordered media in a printing system, the method comprising the steps of: (a) associating the ordered media with an entry in a paper catalog in response to an input on an interface; (b) pre-selecting a first part of a set of the ordered media to be used in a print job in response to another input on the interface; (c) determining a second unwanted part of the ordered media set to be discarded; and (d) configuring the printing system to send the first part of the ordered media set directly to a first job output and the second part of the ordered media set directly to a second job output.

[Claim 11:] A system for pre-selecting ordered media in a printing system, comprising: (a) means for associating the ordered media with an entry in a paper catalog in response to an input on an interface; (b) means for pre-selecting a first part of a set of the ordered media to be used in a print job in

response to another input on the interface; (c) means for determining a second unwanted part of the ordered media set to be discarded; and (d) means for configuring the printing system to send the first part of the ordered media set directly to a first job output and the second part of the ordered media set directly to a second job output.

(Dkt. 155-8 at 23).

XVII. The ‘974 Patent

The ‘974 Patent issued on January 21, 2003, and is entitled “Automated Job Creation for Job Preparation.” (Dkt. 155-6 at 2). It relates generally to “systems and methods for the control of printer workflows.” (Dkt. 162-8 at ¶ 39).

The parties dispute the construction of terms contained in independent claims 1 and 2 of the ‘974 Patent, which provide as follows:

[Claim 1:] A method for providing production printing instructions relating to a printed end document to a job preparation station, . . . the method comprising: receiving the plurality of documents in electronic format from a job submission station operator, and transmitting the documents in electronic format to a computer; placing said plurality of documents into an electronic folder in the computer; arranging the plurality of documents in said folder in the order the documents are to be printed in the printed end document; said computer automatically converting the plurality of documents into a ready for printer format and merging the plurality of documents together to create a single document in said ready for printer format where the plurality of documents comprise a main portion and at least one exception page; delaying the printing of the main portion at a production device associated with the single document, while the at least one exception page is printed at an alternate output device; receiving at the production device the at least one exception page from the alternate output device; printing at the production device the main portion and where the production device collates the at least one exception page with the main portion; and said computer automatically creating an electronic job ticket providing global attributes for the printed end document.

[Claim 2:] A system for providing production printing instructions for a printed end document to a job preparation station, wherein said printed end document comprises a plurality of documents in a predefined order, said plurality of documents each comprising content and document formatting, said system comprising: a job submission station having a computer; a receiver to receive said plurality of documents in electronic format from a job submission station operator, said receiver disposed at said job submission station and connected to transmit said documents in electronic format to said computer; an input device connected to said computer for said job submission operator to input instructions to said computer, said instructions operative to control features of said plurality of documents, wherein said control comprises at least one of manage, edit, modify and add feature; said computer programmed to: (1) receive input instructions from said operator through said input device to place said plurality of documents into an electronic folder, and arrange said plurality of documents in said folder in the order said documents are to be printed in the printed end document; (2) automatically convert the plurality of documents into a ready for printer format and merge the plurality of documents together to create a single document in said ready for printer format; and (3) create an electronic job ticket providing global attributes for the printed end document, wherein the plurality of documents are merged to create the single document, where the plurality of documents comprise a main portion and at least one exception page, where the printing of the main portion is delayed at a production device associated with the single document, while the at least one exception page is printed at an alternate output device where the production device prints the main portion and where the production device collates the at least one exception page with the main portion.

(Dkt. 155-6 at 22-23).

CLAIM CONSTRUCTION

I. Legal Standards

The issue before the Court is the construction of the disputed Terms set forth in the claims of the Asserted Patents identified above. As the Supreme Court has explained:

The[re] are two elements of a simple patent case, construing the patent and determining whether infringement occurred. . . . The first is a question of law, to be determined by the court, construing the letters-patent, and the

description of the invention and specification of claim annexed to them. The second is a question of fact, to be submitted to a jury.

Markman v. Westview Instruments, Inc., 517 U.S. 370, 384 (1996) (quotation omitted).

“[C]laim construction analysis, an issue of substantive patent law, is governed by Federal Circuit law.” *Uni-Sys, LLC v. United States Tennis Ass’n Nat’l Tennis Ctr. Inc.*, No. 17-CV-147(KAM)(CLP), 2020 WL 3960841, at *2 (E.D.N.Y. July 13, 2020). Under the law of the Federal Circuit:

In construing [patent] claims, the analytical focus must begin and remain centered on the language of the claims themselves, for it is that language that the patentee chose to use to particularly point out and distinctly claim the subject matter which the patentee regards as his invention. The words used in the claims are examined through the viewing glass of a person skilled in the art. In the absence of an express intent to impart a novel meaning to the claim terms, the words are presumed to take on the ordinary and customary meanings attributed to them by those of ordinary skill in the art.

Brookhill-Wilk I, LLC. v. Intuitive Surgical, Inc., 334 F.3d 1294, 1298 (Fed. Cir. 2003) (quotation, citations, and original alterations omitted); *see also Source Vagabond Sys. Ltd. v. Hydrapak, Inc.*, 753 F.3d 1291, 1299 (Fed. Cir. 2014). “In approaching claim construction, [the Court] must always be conscious that [the] objective is to interpret the claims from the perspective of one of ordinary skill in the art.” *Dayco Prod., Inc. v. Total Containment, Inc.*, 258 F.3d 1317, 1324 (Fed. Cir. 2001).

“In determining the proper construction of a claim, the court has numerous sources that it may properly utilize for guidance. These sources . . . include both intrinsic evidence (*e.g.*, the patent specification and file history) and extrinsic evidence (*e.g.*, expert

testimony).” *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996); *see also Thorner v. Sony Computer Entm’t Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012) (“The words of a claim are generally given their ordinary and customary meaning as understood by a person of ordinary skill in the art when read in the context of the specification and prosecution history.”). “[I]n interpreting an asserted claim, the court should look first to the intrinsic evidence of record, *i.e.*, the patent itself, including the claims, the specification and, if in evidence, the prosecution history. Such intrinsic evidence is the most significant source of the legally operative meaning of disputed claim language.” *Vitronics*, 90 F.3d at 1582 (citation omitted).

II. Means-Plus-Function Limitations

The parties agree that certain of the disputed Terms involve “means-plus-function” limitations, the construction of which is governed by 35 U.S.C. § 112, ¶ 6. As to several other disputed Terms, the parties’ disagreement centers around whether they fall into this category. (*See* Dkt. 162-2).

“Under means plus function claiming, an inventor may draft a claim element in a manner that only describes a function without describing a particular structure that performs that function.” *Uni-Sys.*, 2020 WL 3960841, at *11 (quoting *Integrity Worldwide, LLC v. Rapid-EPS LTD*, No. 17-CV-55, 2018 WL 3609430, at *4 (N.D. Tex. May 29, 2018)). As the Federal Circuit has explained:

Means-plus-function limitations are governed by 35 U.S.C. § 112, ¶ 6, which provides: An element in a claim for a combination may be expressed as a

means or step for performing a specified function without the recital of structure in support thereof, and such claim shall be construed to cover the corresponding structure described in the specification and equivalents thereof.

Chicago Bd. Options Exch., Inc. v. Int’l Sec. Exch., LLC, 677 F.3d 1361, 1367 (Fed. Cir. 2012) (original alterations omitted). The Federal Circuit has further explained that “§ 112, ¶ 6 represents a *quid pro quo* by permitting inventors to use a generic means expression for a claim limitation provided that the specification indicates what structure(s) constitute(s) the means.” *Id.* (quotation omitted).

When determining as a threshold matter whether a limitation is a means-plus-function limitation, “the use of the word ‘means’ in a claim element creates a rebuttable presumption that § 112, para. 6 applies. Applying the converse, . . . the failure to use the word ‘means’ also creates a rebuttable presumption—this time that § 112, para. 6 does not apply.” *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1348 (Fed. Cir. 2015) (citation omitted). However, the Court must be careful not to “blindly elevate[] form over substance when evaluating whether a claim limitation invokes § 112, para. 6,” and “the essential inquiry is not merely the presence or absence of the word ‘means’ but whether the words of the claim are understood by persons of ordinary skill in the art to have a sufficiently definite meaning as the name for structure.” *Id.*

“Construction of a means-plus-function limitation involves two steps. First, the court must identify the claimed function. Second, the court must identify the corresponding structure in the specification that performs the recited function.” *Chicago Bd.*, 677 F.3d at

1367. “The specification must be read as a whole to determine the structure capable of performing the claimed function.” *Budde v. Harley–Davidson, Inc.*, 250 F.3d 1369, 1379 (Fed. Cir. 2001).

III. The Disputed Terms

The Court notes initially that although the parties identified 64 disputed Terms in their Joint Statement (Dkt. 128), as noted above, they subsequently agreed to withdraw Terms 17, 28, 37, 53, and 63 (*see* Dkt. 155-2; Dkt. 162-2). The Court has accordingly not considered those Terms in its claim construction analysis.

A. Terms 1 and 4

The parties make related arguments regarding Terms 1 and 4. Term 1 comes from claim 1 of the ‘375 Patent: “a marking mechanism for producing an image on media sheets.” (Dkt. 155-2 at 2). Term 4 comes from claim 1 of the ‘795 Patent: “a marking mechanism for producing an image on media.” (*Id.* at 4) Plaintiff contends that these terms do not require any construction, while Defendant argues that they are means-plus-function limitations and must be construed accordingly.

The Court agrees with Plaintiff that Terms 1 and 4 are not means-plus-function limitations. Neither of these Terms use the word “means,” and so there is a rebuttable presumption that they are not means-plus-function limitations. Defendant has not rebutted this presumption, for the reasons discussed below.

Defendant points out that the Federal Circuit has held that: “[g]eneric terms such as ‘mechanism,’ ‘element,’ ‘device,’ and other nonce words that reflect nothing more than verbal constructs may be used in a claim in a manner that is tantamount to using the word ‘means’ because they ‘typically do not connote sufficiently definite structure’ and therefore may invoke § 112, para. 6.” *Williamson*, 792 F.3d at 1350 (quoting *Mass. Inst. of Tech. & Elecs. for Imaging, Inc. v. Abacus Software*, 462 F.3d 1344, 1354 (Fed. Cir. 2006) (“*MIT*”). However, while “mechanism” standing alone may be a nonce word, “a structural modifier further describing a nonce term can imbue said nonce term with sufficient structure to place it beyond 35 U.S.C. § 112 ¶ 6.” *Uni-Sys.*, 2020 WL 3960841, at *13 (collecting cases finding detent mechanism, locking mechanism, movement mechanism, and fastening mechanism not to be means-plus-function limitations). “[I]t is sufficient if the claim term is used in common parlance or by persons of skill in the pertinent art to designate structure, even if the term covers a broad class of structures and even if the term identifies the structures by their function.” *MIT*, 462 F.3d at 1356 (citation omitted).

Defendant’s expert Dr. Charles F. Reinholtz⁴ opines that the phrase “marking mechanism” is “not a name for structure” that he has “encountered in the art” and that “the

⁴ Dr. Reinholtz holds a Ph.D. in mechanical engineering from the University of Florida and is currently a professor of mechanical engineering at Embry-Riddle Aeronautical University in Daytona Beach, Florida (Dkt. 162-8 at ¶¶ 5, 12). Plaintiff has not contested the admissibility of Dr. Reinholtz’s expert opinions.

term instead appears to be a functional term where the function—marking—modifies what is essentially a placeholder (or nonce) term—a mechanism.” (Dkt. 162-8 at ¶ 22). In opposition, Plaintiff’s expert Dr. J. Michael McCarthy⁵ opines that “a Person of ordinary skill in the art would understand ‘marking mechanism’ to refer to a specific structure such as [a] component or system that uses markings to produce an image on media (e.g. paper) sheets.” (Dkt. 163-3 at ¶ 44). Dr. McCarthy explains that the specifications of the ‘375 and ‘795 Patents disclose several different embodiments of a “marking mechanism.” (*See Id.* at ¶ 46-47). Dr. McCarthy further notes that the specification of the ‘375 Patent explains that certain types of marking mechanisms are “well known in the field.” (*Id.* at ¶ 44; *see also* Dkt. 155-18 at 17 (specification of the ‘375 Patent stating that using a carriage to carry a print head and plurality of ink cartridges back and forth across the media path is well known in the field)).

On this point, the Court finds Dr. McCarthy’s opinion more persuasive. The addition of “marking” to the otherwise generic term “mechanism” adds sufficient structure to bring this term outside § 112, ¶ 6. Dr. McCarthy confirms that “marking” has a straightforward definition that is known in the art and that a person of ordinary skill in the art would understand “marking mechanism” to refer to a class of structures used in printing technology to make marks on media. *See MIT*, 462 F.3d at 1354 (finding “colorant

⁵ Dr. McCarthy holds a Ph.D. in mechanical engineering from Stanford University and is currently a professor in the department of mechanical and aerospace engineering at the University of California at Irvine. (Dkt. 155-4 at ¶¶ 5, 6). Defendant has not contested the admissibility of Dr. McCarthy’s expert opinions.

selection mechanism” to be a means-plus-function limitation because “the term ‘colorant selection’ . . . is not defined in the specification and has no dictionary definition, and there is no suggestion that it has a generally understood meaning in the art”); *Greenberg v. Ethicon Endo-Surgery, Inc.*, 91 F.3d 1580, 1583 (Fed. Cir. 1996) (finding “detent mechanism” was not a means-plus-function limitation because “[d]ictionary definitions make clear that the noun ‘detent’ denotes a type of device with a generally understood meaning in the mechanical arts,” even though “the term ‘detent’ does not call to mind a single well-defined structure”). The Court accordingly agrees with Plaintiff that no means-plus-function analysis is required, and instead construes Terms 1 and 4 as a mechanism that uses markings to produce an image on media [sheets], in accordance with the plain meaning of the language used in these Terms as understood by a person of ordinary skill in the art.

B. Terms 2 and 5

The parties make related arguments as to Terms 2 and 5. Term 2 comes from claim 1 of the ‘375 Patent: “a mechanism adapted to selectively move each of said first and second trays between its media load position and its pick position, said trays being aligned side by side when both at their pick positions such that the picker can simultaneously remove a sheet from each tray.” (Dkt. 155-2 at 2-3). Term 5 comes from claim 1 of the ‘795 Patent: “a tray moving mechanism adapted to selectively move the tray between the media load position and the media pick position.” (*Id.* at 5).

Defendant contends that Terms 2 and 5 are means-plus-function limitations. (Dkt. 162 at 28-29). The Court agrees. As discussed above, the term “mechanism” has been recognized by the Federal Circuit as a nonce word that may substitute for the word “means” and thus constitute a means-plus-function limitation. Here, in Term 2, there is no modifier for “mechanism,” and the phrase would convey the same meaning if the word “means” was substituted in for mechanism. *See Welker Bearing Co. v. PHD, Inc.*, 550 F.3d 1090, 1096 (Fed. Cir. 2008) (finding claim term including the phrase “mechanism for moving said finger” was a means-plus-function limitation because it “provide[d] no structural context for determining the characteristics of the ‘mechanism’ other than to describe its function. Thus, the unadorned term ‘mechanism’ is simply a nonce word or a verbal construct that is not recognized as the name of structure and is simply a substitute for the term ‘means for.’ (quotation omitted)).

With respect to Term 5, Dr. Reinholtz persuasively opines that the modifier “tray moving” does not provide sufficient structure to take the phrase “tray moving mechanism” beyond 35 U.S.C. § 112 ¶ 6. Dr. Reinholtz explains that while a person of ordinary skill in the art would know that there were various means available to achieve the function of moving the trays, the phrase “tray moving mechanism” would not “connote any particular structure or class of structure to a person having ordinary skill in the art.” (Dkt. 162-8 at ¶¶ 78, 81). Dr. McCarthy’s contrary opinions are not persuasive. He states that a person of ordinary skill in the art would understand “tray moving mechanism” to mean “a structure

for moving trays into the positions described in the claim language.” (Dkt. 163-3 at ¶ 52). This is merely a rephrasing of the Terms with the word “structure” substituted in for “mechanism.” Further, unlike with respect to Terms 1 and 4, the specifications of the ‘375 and ‘795 Patents do not identify examples of tray moving mechanisms that are well known in the field. The Court thus finds that Defendant has rebutted the presumption that Terms 2 and 5 are not means-plus-function limitations.

The Court is further unpersuaded by Plaintiff’s argument that the doctrine of claim differentiation bars a conclusion that Terms 2 and 5 are means-plus-function limitations. “[E]xamination of other claims in a patent may provide guidance and context for interpreting a disputed means-plus-function limitation, especially if they recite additional functions.” *Wenger Mfg., Inc. v. Coating Mach. Sys., Inc.*, 239 F.3d 1225, 1234 (Fed. Cir. 2001). However, when assessing in the first instance whether a particular limitation is a means-plus-function limitation, “the judicially created doctrine of claim differentiation cannot override the statutory requirements of § 112, ¶ 6,” *id.* at 1233, and “[i]t is settled law . . . that independent claims containing means-plus-function limitations do not have the same literal scope as dependent claims reciting specifically the structure that performs the stated function,” *Medtronic, Inc. v. Advanced Cardiovascular Sys., Inc.*, 248 F.3d 1303, 1313 (Fed. Cir. 2001). In this case, Plaintiff argues that Defendant’s proposed construction “improperly changes the claim language by importing into independent Claim 1 a limitation from another claim that the mechanisms described must be a ‘rack and pinion

apparatus.” (Dkt. 155 at 27 (noting that dependent claim 2 of the ‘795 Patent and dependent claim 6 of ‘375 Patent contain an express limitation to a “rack and pinion apparatus”)). This argument is misplaced because, as set forth above, the doctrine of claim differentiation does not bar a conclusion that independent claims 1 of the ‘795 Patent and the ‘375 Patent contain a means-plus-function limitation and that dependent claim 2 of the ‘795 Patent and dependent claim 6 of ‘375 Patent recite specifically the structure that performs the stated function, and the doctrine of claim differentiation thus does not bar a finding in the first instance that Terms 2 and 5 set forth means-plus-function limitations.

Having concluded that Terms 2 and 5 are means-plus-function limitations, the Court next must (1) identify the claimed function and (2) identify the corresponding structure in the specification that performs the claimed function. *Chicago Bd.*, 677 F.3d at 1367. As to the first inquiry, the Court finds that the claimed function is to selectively move the trays between their media load position and their pick position. The Court rejects Defendant’s contention that the function for Term 2 should also include the phrase “said trays being aligned side by side when both at their pick positions such that the picker can simultaneously remove a sheet from each tray.” (Dkt. 162-2 at 2). This language is unnecessary and provides no insight into the function performed by the mechanism.

Turning to the identification of the structure, Dr. Reinholtz explains that “a ‘media load position’ refers to the position in which media (e.g., sheets of paper) can be loaded into the tray, and a ‘media pick position’ refers to the position in which the media can be

‘picked,’ or removed from the media tray, and fed through the printer for printing.” (Dkt. 162-8 at ¶ 83). Accordingly, the Court must search the specification for a structure that moves the trays between these two positions. The Court agrees with Dr. Reinholtz that the corresponding structure is described at column 4, line 2 through column 5, line 44 of the ‘375 Patent (*id.* at ¶ 84) and at column 4, line 8 through column 5, line 50 of the ‘795 Patent (*see* Dkt. 155-18 at 17-18; Dkt. 155-19 at 17-18). That structure is a rack and pinion apparatus comprising output roller gear, a transmission gear, an idler gear, a gear that is fixed to a gear shaft, rack, a fixed tray support, left & right movable sub trays, leaf spring for carriage activation, gear shaft from rocker gear transmission, a pinion gear engaging rack, and left and right tray biasing springs, where the gear shaft is connected to the gear of the rocker gear transmission, and the gear shaft rotates as one pinion gear to drive in linear motion racks on the trays. (*See* Dkt. 162-8 at ¶ 86).

C. Terms 3 and 6

Defendant has agreed not to seek construction of disputed Terms 3 and 6, “[g]iven the number of terms disputed and the priority of those terms[.]” (Dkt. 162 at 29 n.10). The Court accordingly does not analyze Terms 3 and 6.

D. Term 7

Term 7 is found in claim 1 of the ‘255 Patent: “the module”/“printing modules.” (Dkt. 155-2 at 6). Defendant argues that Term 7 lacks antecedent basis and is thus indefinite. (Dkt. 162 at 10-11). “The Patent Act requires that a patent specification

‘conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as [the] invention.’” *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 901 (2014) (quoting 35 U.S.C. § 112, ¶ 2). “[T]he definiteness requirement of 35 U.S.C. § 112, ¶ 2” applies “in numerous circumstances,” including, as relevant here, situations in which “a term does not have proper antecedent basis where such basis is not otherwise present by implication or the meaning is not reasonably ascertainable.” *Halliburton Energy Servs., Inc. v. M-I LLC*, 514 F.3d 1244, 1249 (Fed. Cir. 2008), *overruled on other grounds*, *Nautilus*, 572 U.S. at 901. “Indefiniteness must be proven by clear and convincing evidence,” *Sonix Tech. Co., Ltd v. Publ’ns Int’l, Ltd.*, 844 F.3d 1370, 1377 (Fed. Cir. 2017), and “[a] failure to provide antecedent basis does not necessarily render a claim indefinite” if “despite the absence of explicit antecedent basis the scope of a claim would be reasonably ascertainable by those skilled in the art,” *Yodlee, Inc. v. Plaid Techs., Inc.*, No. 14-1445-LPS, 2016 WL 204372, at *12 (D. Del. Jan. 15, 2016) (quoting *Energizer Holdings, Inc. v. Int’l Trade Comm’n*, 435 F.3d 1366, 1370-71 (Fed. Cir. 2006) and original alteration omitted)).

In this case, Defendant argues that Term 7 is indefinite because claim 1 of the ‘255 Patent “refers first to ‘the modules’ and later to ‘the printing modules’ without previously referencing either term,” and “[w]ithout this prior reference, one cannot determine from the claim language what is ‘the module’ or ‘the printing modules,’ including whether these different terms refer to the same structure or different ones.” (Dkt. 162 at 10-11). The

Court agrees. While the specification of the ‘255 Patent explains generally what a module is (*see* Dkt. 155-5 at 12 (“The term module means a device or subsystem designed to perform a specific task in producing a printed image.”)) and gives examples of different kinds of modules, nothing in the language of claim 1 identifies what “the module” means in context. The Court notes that the use of the phrase “printing modules” in a subsequent step of claim 1 necessarily indicates that there is more than one module, yet the first step of the claimed method refers to determining the location of a fixed location of “the module.” (Dkt. 155-5 at 17 (emphasis added)). As Dr. Reinholtz explains, a person of ordinary skill in the art would not be able to ascertain what the “particular, claimed modules are in the context of the claim language.” (Dkt. 162-8 at ¶ 89).

The Court is not persuaded by Dr. McCarthy’s contention, made in reply, that a person of ordinary skill in the art would “understand that the ‘255 Patent and claim 1 uses the words ‘engine’ and ‘module’ interchangeably” and that “printing engines” in claim 1 can serve as the antecedent basis for “module” and “printing module.” (Dkt. 163-3 at ¶¶ 64-66). This contention is inconsistent with the language of the specification of the ‘255 Patent, which provides that “[a] module can be an integral component in a print engine.” (Dkt. 155-5 at 12). A component is not coextensive with the whole, and the specification of the ‘255 Patent does not support the contention that “print engine” and “module” are interchangeable terms as used in claim 1. Column 2, lines 33 through 36 of the ‘255 Patent, cited by Plaintiff at the claim construction hearing, does not change this conclusion. This

particular portion of the ‘255 Patent, which comes from the “Background of the Invention” section and states that “a printing engine assembly capable of producing full color images may include at least four separate print engines or modules where each module or engine prints one color” (Dkt. 155-5 at 11), speaks only in generic terms and provides no insight into how the terms “modules” and “printing engines” are used in claim 1.

For these reasons, Defendant has demonstrated by clear and convincing evidence that Term 7 is indefinite. *See Bushnell Hawthorne, LLC v. Cisco Sys., Inc.*, 813 F. App’x 522, 526 (Fed. Cir. 2020) (finding term “said different IP address” indefinite where claim elsewhere described three classes of IP addresses and did not explain which constituted the “different IP address”).

E. Term 8

Term 8 is found in claim 12 of the ‘255 Patent: “an alignment device to align the two or more printing engines in the cross track direction (z direction) relative to the receiver path cross track reference based on the measurement.” (Dkt. 155-2 at 7). Plaintiff contends that Term 8 should be construed to mean “a device or component, such as a controller, to align two or more printing engines in a side to side direction perpendicular to the receiver path based upon the measurement of the measurement device” (*id.*), while Defendant argues that it should be construed to mean “one or more physical elements on print assemblies that can be used to align two or more printing engines in a direction across a

paper path as determined in comparison to the location of the paper path cross track reference based on the measurement” (Dkt. 162-2 at 4).

As Defendant explains, “[t]he parties’ primary dispute with respect to [Term 8] is whether the alignment device must be one or more physical elements.” (Dkt. 162 at 11). The Court agrees with Plaintiff that claim 12 of the ‘255 Patent contains no such requirement. As Dr. McCarthy explains, the specification of the ‘255 Patent expressly discloses “both physical and electronic components . . . that adjust alignment based on measurements.” (Dkt. 155-4 at ¶ 38). The Court is not persuaded by Defendant’s argument that “the claim language requires the ‘alignment device’ to “align the two or more printing engines [in a particular direction]”” and that this “function is necessarily implemented by a physical structure that can move (and thus align) the printing engines.” (Dkt. 162 at 11). Defendant has cited to no evidence for this contention, and has not contradicted Dr. McCarthy’s expert testimony that a person of ordinary skill in the art would understand that electrical components such as controllers and sensors can perform the alignment function.

However, the Court agrees with Defendant that the portion of Plaintiff’s proposed construction describing the alignment as occurring “in a side to side direction perpendicular to the receiver path based upon the measurement of the measurement device” is inaccurate. The language of Claim 12 defines the “cross track direction” with reference to the receiver path, and Plaintiff has proffered no reason that it needs to be strictly perpendicular.

Accordingly, the Court construes Term 8 as a device or component, such as a controller, to align two or more printing engines in a direction across a paper path as determined in comparison to the location of the paper path cross track reference based on the measurement.

F. Term 9

Term 9 is found in claim 1 of the ‘255 Patent: “the measurements”/“the measuring of the printing modules.” (Dkt. 155-2 at 7). Defendant “does not seek further construction of Term 9 (because the use of ‘the printing modules’ in Term 9 also renders that term indefinite).” (Dkt. 162 at 10 n.1). The Court having found that Term 7 (and thus claim 1 of the ‘255 Patent) is indefinite, it need not and does not engage in any further construction of Term 9.

G. Term 10

Term 10 is found in claims 1 and 12 of the ‘255 Patent: “printing engine.” (Dkt. 155-2 at 7). Plaintiff contends that this Term needs no construction and that the plain and ordinary meaning—an engine for printing—applies. (*Id.*). Defendant argues that Term 10 should be construed as “a print engine that includes sufficient components to produce prints.” (Dkt. 162 at 12-13).

“The specification acts as a dictionary when it expressly defines terms used in the claims or when it defines terms by implication.” *Vitronics*, 90 F.3d at 1582. In other words, where “a patent applicant has elected to be a lexicographer by providing an explicit

definition in the specification for a claim term . . . , the definition selected by the patent applicant controls.” *Renishaw PLC v. Marposs Societa' per Azioni*, 158 F.3d 1243, 1249 (Fed. Cir. 1998).

In this case, the specification of the ‘255 Patent states that “[a] print engine includes sufficient modules to produce prints.” (Dkt. 155-5 at 13). This definition appears with “reasonable clarity, deliberateness, and precision,” *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994), and thus governs. Further, the Federal Circuit “has consistently interpreted ‘including’ and ‘comprising’ to have the same meaning, namely, that the listed elements . . . are essential but other elements may be added.” *Lucent Techs., Inc. v. Gateway, Inc.*, 525 F.3d 1200, 1214 (Fed. Cir. 2008). *E-Pass Techs., Inc. v. 3Com Corp.*, 343 F.3d 1364 (Fed. Cir. 2003), which Plaintiff cites in support of its proposed construction, did not discuss the meaning of the term “including” and is not to the contrary. Accordingly, the Court finds that Term 10, printing engine, must be construed to mean “a print engine that includes sufficient modules to produce prints.”

H. Term 11

Term 11 is found in claims 1 and 12 of the ‘255 Patent: “print assembly”/“printing assembly.” (Dkt. 155-2 at 8). Plaintiff argues that these phrases take their plain and ordinary meaning and that no further construction is necessary. (Dkt. 163 at 10). Defendant argues that these claim terms must be construed to “require one or more print engines as part of” the assembly (Dkt. 162 at 13) and that the print engines must be

“integrally coupled together” (Dkt. 164 at 10). Defendant bases this construction on the language of claim 12, which provides for a “plurality of electrophotographic printing engines each in two or more of different print assemblies,” and of claim 1, which refers to “electrophotographic printing engines in a plurality of different print assemblies.” (*Id.* (citations omitted)). Defendant further notes that the specification of the ‘255 Patent defines “print engine assembly” as “ a plurality of print engines that have been integrally coupled together to allow them to print in a desired manner. (*Id.* (citation omitted)).

The Court agrees with Defendant that the claim language makes clear that the print assemblies must contain print engines. The Court further agrees with Defendant, for reasons substantially the same as in its analysis of Term 10, that Plaintiff is bound by the language in the specification defining a print engine assembly as requiring the print engines to have been integrally coupled together. The Court construes Term 11 as meaning one or more print engines that have been integrally coupled together.

I. Term 12 and Term 15

The parties make related arguments as to Terms 12 and 15. Term 12 is found in claims 1 and 5 of the ‘089 Patent: “multi-development module.” (Dkt. 155-2 at 8). Term 15 is also found in claims 1 and 5 of the ‘089 Patent: “single development module.” (*Id.* at 10).

Plaintiff contends that Term 12 has the plain and ordinary meaning of “a module with multiple development stations” and that Term 15 has the plain and ordinary meaning

of “a module with a single development station” and that no further construction is required. (Dkt. 155-2 at 8, 10). Defendant argues that Terms 12 and 15 are means-plus-function limitations and must be construed accordingly. (Dkt. 162-2 at 4-6).

“‘Module’ is a well-known nonce word that can operate as a substitute for ‘means’ in the context of § 112, para. 6.” *Williamson*, 792 F.3d at 1350 (Fed. Cir. 2015). However, “the presence of modifiers can change the meaning of ‘module,’” if those modifiers provide “structural significance.” *Id.*

In this case, Dr. McCarthy has persuasively opined that a person of ordinary skill in the art would understand Terms 12 and 15 to have structural significance. As Dr. McCarthy explains, the language of the ‘089 Patent makes it clear to a person of ordinary skill in the art that “a multi-development module corresponds to multiple developers of toner mapped to one or more primary members, while a single development module corresponds to one developer of toner mapped to one or more primary members.” (Dkt. 163-3 at ¶ 72).

The Court does not find persuasive Dr. Reinholtz’s argument that it is not clear from the ‘089 Patent what constitutes a development station and, in turn, a development module. Read as a whole, the ‘089 Patent is clear that a development station contains one or more developers along with one or more primary imaging members. The Court accordingly construes Term 12 as a module with multiple development stations and Term 15 as a module with a single development station, and further construes development station to mean one or more developers mapped to one or more primary imaging members.

J. Term 13 and Term 14

The parties make related arguments as to Terms 13 and 14. Term 13 is found in claim 5 of the '089 Patent: “a control unit arranged such that the control unit determines a combination of toners required to form an image according to a job specification and that the combination of toners includes two toners in the multi-development module, developing and transferring first toner separations onto the receiver including a first one of the two toners in the multi-development module with the controller further being arranged to cause the receiver to pass through the print engine a second time to allow a color separation to be developed using other of the two toners in the multi-development module and transferred onto the first toner separations.” (Dkt. 155-2 at 8-9). Term 14 is also found in claim 5 of the '089 Patent: “the controller is further arranged to determine that the identified combination of toners does not include two toners in the two development stations in the multi[-]development module, forming and transferring a first combination of the identified toner separations onto the receiver and diverting the receiver to at least one of an inverter and an exit.” (*Id.* at 9-10). Defendants argue that Terms 13 and 14 render claim 5 of the '089 Patent indefinite because they “impermissibly recite[] method steps in an apparatus claim.” (Dkt. 162-2 at 5-6).

“[R]eciting both an apparatus and a method of using that apparatus renders a claim indefinite under section 112, paragraph 2.” *IPXL Holdings, L.L.C. v. Amazon.com, Inc.*, 430 F.3d 1377, 1384 (Fed. Cir. 2005). This is so because combining these “two separate

statutory classes of invention” means that “a manufacturer or seller of the claimed apparatus would not know from the claim whether it might also be liable for contributory infringement because a buyer or user of the apparatus later performs the claimed method of using the apparatus.” *Id.*

The Court rejects Defendant’s argument that Terms 13 and 14 include method steps in an apparatus claim. The Federal Circuit’s holding in *IPXL* “does not apply to limitations that indicate a function of the claimed structure that does not require any user activity.” *DMF, Inc. v. AMP Plus, Inc.*, No. 2:18-CV-07090 CAS GJSX, 2019 WL 1099982, at *10 (C.D. Cal. Mar. 7, 2019); *see also UltimatePointer, L.L.C. v. Nintendo Co.*, 816 F.3d 816, 827-28 (Fed. Cir. 2016) (rejecting indefiniteness challenge as to claims that “do not reflect an attempt to claim both an apparatus and a method, but instead claim an apparatus with particular capabilities”). Here, Defendant acknowledges in its sur-reply that Terms 13 and 14 refer to functions “to be performed by the control unit (also referred to as controller).” (Dkt. 164 at 10).

When asked about these terms at the claim construction hearing, Defendant argued that the grammatical structure of claim 5 of the ‘089 Patent supports its argument, because it uses different verb forms when referring to functions performed by the controller. The Court does not find this argument persuasive. “[T]he claim construction inquiry, as described in *Markman* . . ., is not hamstrung by the rigidities of English grammar.” *Shire Dev. LLC v. Teva Pharm. USA, Inc.*, No. 1:17-CV-01696-RGA, 2019 WL 969638, at *4

(D. Del. Feb. 28, 2019). While claim 5 of the ‘089 Patent is not a model of proper grammar, the Court finds that, when read as a whole, Terms 13 and 14 do not impermissibly describe user activity, but instead set forth functions of the controller. *See MasterMine Software, Inc. v. Microsoft Corp.*, 874 F.3d 1307, 1315 (Fed. Cir. 2017) (finding that “active verbs” can “represent permissible functional language used to describe capabilities”). For these reasons, the Court finds that Defendant has not demonstrated indefiniteness as to Terms 13 and 14.

K. Term 16, Term 18, and Term 20

The parties make related arguments as to Terms 16, 18, and 20. Term 16 is found in claims 1 and 5 of the ‘582 Patent: “inverse mask.” (Dkt. 155-2 at 10). Term 18 is found in claims 5 and 10 of the ‘415 Patent: “inverse mask/inverse mask application.” (*Id.* at 11). Claim 20 is found in claim 10 of the ‘425 Patent: “inverse mask application.” (*Id.* at 12). Plaintiff argues that no construction is necessary as to any of these terms, and that they all have the plain and ordinary meaning of “application of clear toner onto a receiver containing a color image wherein the clear toner is applied as a mask in a manner that is inverse to, or separate from, the color image.” (*Id.* at 10-12). Defendant raises two issues with this proposed construction. First, Defendant argues that the “inverse mask” cannot include clear toner applied “separate from” but not “inverse” to the color image. (Dkt. 162 at 14). Second, Defendant argues that “the clear toner’s application must depend on receiver (or paper) type.” (*Id.*).

As to the first of these disputes, the specification of the ‘582 Patent clearly distinguishes between the application of an inverse mask and a separate application of clear toner. (*See* Dkt. 155-10 at 15). The Court agrees with Defendant that Terms 16, 18, and 20 cannot be construed to include an application of clear toner that is separate from but not inverse to the color image.

As to the second dispute, the Court again agrees with Defendant that the inverse mask is receiver dependent. Indeed, claims 1 and 5 of the ‘582 Patent specifically state that the inverse mask is “receiver and image dependent.” (Dkt. 155-10 at 18).

However, the Court finds that Defendant’s lengthy proposed construction of Terms 16, 18, and 20 (“[a] pattern of application of clear toner onto a color image where balance is created in toner stack heights by providing relatively greater amounts of clear toner coverage to areas of an image having relatively lower amounts of color toner and lesser amounts of clear toner coverage to areas of the image having relatively greater amounts of color toner coverage depending on both the paper type and the amount of color toner coverage on the paper at a given pixel location” (Dkt. 162-2 at 6)) is unnecessarily confusing and improperly imports limitations from the specification. The Court instead construes “inverse mask” as an application of clear toner onto a receiver containing a color image wherein the clear toner is applied as a mask in a manner that is inverse to the color image and the amount of clear toner applied depends on the receiver and the image on which it is applied.

L. Term 19

Term 19 is found in claims 1 and 9 of the ‘415 Patent: “belt glosser.” (Dkt. 155-2 at 11). Plaintiff contends that this Term should take its plain and ordinary meaning of “a belt glosser or a glosser that uses a belt” (*id.*), while Defendant argues it should be construed as “glosser that uses a belt to enhance the gloss of an image” (Dkt. 162-2 at 7).

As Defendant acknowledges in its reply, and as the parties confirmed at the claim construction hearing, the parties are in agreement that the belt must be used for glossing. (Dkt. 164 at 11). The Court agrees with Plaintiff that its proposed construction adequately conveys that information and that the additional language proposed by Defendant merely confuses the issue. Accordingly, the Court adopts Plaintiff’s proposed construction of this Term.

M. Term 21

Term 21 is found in claims 1 and 2 of the ‘998 Patent: “predetermined values undesirable for normal image forming operations.” (Dkt. 155-2). Plaintiff contends that no construction is necessary, and that Term 21 takes its plain and ordinary meaning of “predetermined values that are undesirable or not preferred for normal image forming operations.” (*Id.*). Defendant urges the Court to construe Term 21 as meaning “[a] voltage not capable of being used to form an image or operate the image forming apparatus at normal operation.” (Dkt. 162-2 at 7). Defendant further contends that adopting Plaintiff’s proposed construction would render the Term indefinite, because it is not clear “[w]hen . . .

the voltage become[s] so undesirable” as to fall within the scope of the claim. (Dkt. 164 at 11).

The Court agrees with Plaintiff that Defendant’s proposed construction is not consistent with the language of the relevant claims, because “undesirable” is not the same as “not capable.” To the contrary, “undesirable” denotes something that is possible but not wanted. Defendant has cited no evidence to support the conclusion that a person of ordinary skill in the art would understand “undesirable” to have anything other than its “dictionary definition” of “unwanted or objectionable.” *Nutrition 21, LLC v. Gen. Nutrition Corp.*, No. 6:05-CV-228, 2006 WL 2385279, at *14 (E.D. Tex. Aug. 17, 2006) (refusing to construe term “undesirable high levels of blood serum lipids” to mean “a level of blood serum lipids determined to be abnormally high” because the defendant cited no evidence “that a skilled artisan would construe ‘undesirably high’ to mean ‘abnormally high’”).

The Court further disagrees with Defendant that use of the word “undesirable” renders Term 21 indefinite. *See id.* (construing “undesirable high levels of blood serum lipids” according to its plain meaning). “Because language is limited, [the Federal Circuit has] rejected the proposition that claims involving terms of degree are inherently indefinite.” *Sonix Tech.*, 844 F.3d at 1377. To the contrary, “[c]laim language employing terms of degree has long been found definite where it provided enough certainty to one of skill in the art when read in the context of the invention.” *Interval Licensing LLC v. AOL*,

Inc., 766 F.3d 1364, 1370 (Fed. Cir. 2014). Here, as the party claiming indefiniteness, it is Defendant’s burden to come forward with clear and convincing evidence that a person of ordinary skill in the art would not understand what “undesirable” means in context. Defendant has not done so; indeed, it has offered no evidence related to how a person of ordinary skill in the art would understand this Term.

Finally, the Court agrees with Plaintiff that it is unnecessary to include the term “voltage” in the construction of Term 21, because the claim language specifies elsewhere that the “developing bias voltage and primary charging voltage” are set at “predetermined values,” and that “to form an image or operate the image forming apparatus at normal operation” is merely an unnecessarily confusing rewording of “for normal operations.” (Dkt. 163 at 12 (internal quotation marks omitted)). The Court construes Term 21 in accordance with its plain and ordinary meaning.

N. Term 22

Term 22 is found in claims 1, 2, and 14 of the ‘856 Patent: “toner type.” (Dkt. 155-2 at 12). Plaintiff argues that Term 22 takes its plain and ordinary meaning of a type of toner (*id.*), while Defendant argues that Term 22 should be construed as “toner technology characteristic (e.g. MICR v. conventional or normal) that is not color” (Dkt. 162-2 at 7).

The parties’ dispute as to Term 22 is whether or not different colors of toner constitute different types. The Court agrees with Defendant that the specification of the ‘856 Patent indicates that “type” does not refer to color. Specifically, the specification

indicates that “a conventional type of toner” can be made with different dyes that “correspond to the desired color of printed output.” (Dkt. 155-14 at 9). Accordingly, the Court adopts Defendant’s proposed construction of Term 22.

O. Term 23

Term 23 is found in claim 1 of the ‘278 Patent: “markedly greater.” (Dkt. 155-2 at 12). Defendant contends that Term 23 is indefinite because it “fails to provide a definite boundary as to what ‘markedly greater’ means.” (Dkt. 162-2 at 8). As described above, the use of a term of degree does not necessarily render a claim indefinite. However, “a term of degree that is ‘purely subjective’ and depends ‘on the unpredictable vagaries of any one person’s opinion’ is indefinite[.]” *Intellectual Ventures I LLC v. T-Mobile USA, Inc.*, 902 F.3d 1372, 1381 (Fed. Cir. 2018).

Dr. Reinholtz opines that nothing in the specification of the ‘278 Patent would allow a person of ordinary skill in the art to understand what “markedly greater” means in this context and that such person “would have to make a subjective judgment as to whether the cross-section flow-through area is sufficiently greater than the entire area of stays between the through-passage openings to be called ‘markedly greater.’” (Dkt. 162-8 at ¶ 108). Dr. McCarthy, on the other hand, states that a person of ordinary skill in the art would understand the term as consistent with the dictionary definition of markedly as “clearly defined and evident; noticeable.” (Dkt. 163-3 at ¶ 91).

Dr. McCarthy’s proposed construction of “markedly” merely replaces one term (markedly) that relies on the subjective opinion of a particular individual for two other terms (noticeable and evident) that rely on the subjective opinion of an individual. Accordingly, Dr. Reinholtz’s opinion that a person of ordinary skill in the art would have to make a subjective judgment in order to understand what “markedly greater” means is effectively un rebutted. The Court finds that Defendant has established by clear and convincing evidence that Term 23 (and thus claim 1 of the ‘278 Patent) is indefinite.

P. Term 24

Term 24 is found in claim 1 of the ‘3005 Patent: “a first guide plate extending between said skimmer and said separator . . . preventing buckling of the engaged single sheet perpendicular to the feed path.” (Dkt. 155-2 at 13). Plaintiff asserts that this Term requires no construction beyond its plain and ordinary meaning (*id.*), while Defendant urges the Court to construe it as “a continuous plate that extends fully from the skimmer to the separator and prevents movement of the engaged single sheet in a direction perpendicular to the feed path” (Dkt. 162-2 at 8).

The parties disagree as to whether the guide plate is required to span the entire distance between the skimmer and the separator. Defendant argues that during prosecution, the applicant distinguished prior art reference United States Patent No. 4,126,305 by stating that in such patent, there was “a long gap between the left end of the guide . . . and the skimmer[.]” (Dkt. 162 at 17-18). Thus, according to Defendant, “the applicant clearly

surrendered any claim to a guide plate with gaps between the skimmer and the separator, and defined the claimed invention as requiring a guide plate spanning the full distance between the skimmer and separator.” (*Id.* at 18).

“When the prosecution history is used solely to support a conclusion of patentee disclaimer, the standard for justifying the conclusion is a high one.” *Avid Tech., Inc. v. Harmonic, Inc.*, 812 F.3d 1040, 1045 (Fed. Cir. 2016). In particular, “the alleged disavowing actions or statements made during prosecution [must] be both clear and unmistakable.” *Omega Eng’g, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1325–26 (Fed. Cir. 2003). Here, the Court finds that the statement at issue is ambiguous, because it referred not to any gap between the guide plate and the skimmer but specifically to a “long gap.” This is not the kind of unmistakable statement that the Federal Circuit has found to constitute a disavowal. *See id.* at 1045-46 (reversing district court finding of disclaimer because the statements relied upon were “readily susceptible to a narrower reading than the one needed to support the district court’s disclaimer conclusion”). The Court construes Term 24 in accordance with its plain and ordinary meaning.

Q. Term 25

Term 25 is found in claim 1 of the ‘3005 Patent: “said first guide plate is supported at least in part by and mounted to be pivotable independent of the rotation of said [skimmer] rotating shaft with respect to said support.” (Dkt. 155-2 at 12). Although there was previously a dispute over this Term, Defendant now states that it “does not object to [Term

25] being given its plain and ordinary meaning.” (Dkt. 162 at 17 n.4). The Court accordingly need not engage in further construction of this Term.

R. Term 26 and Term 27

The parties make related arguments regarding Terms 26 and 27. Term 26 is found in claims 1 and 5 of the ‘285 Patent: “a use mechanism coupled to each said computational element and said ORC devices, said use mechanism tracking use of at least one of said ORC devices using a predetermined parameter.” (Dkt. 155-2 at 13). Term 27 is found in claim 1 of the ‘285 Patent: “a comparison mechanism that compares use of said ORC devices to said expected life span . . . where said expected life span for a single of said ORC devices is the shortest expected life span.” (*Id.* at 14).

Defendant contends that Terms 26 and 27 are means-plus-function limitations. (Dkt. 162-2 at 8-9). The Court agrees with Defendant that a person of ordinary skill in the art would not understand either “use mechanism” or “comparison mechanism” to be a name for a structure, for the reasons set forth by Dr. Reinholtz—namely, that the examples of “use mechanisms” and “comparison mechanisms” identified by Dr. McCarthy are nowhere referred to as such in the art and that they further do not perform the functions set forth in claims 1 and 5 of the ‘285 Patent. (*See* Dkt. 162-8 at ¶¶ 115-119). In both of these terms, “mechanism” is used as a nonce word; the phrases “a means for tracking use of at least one of said ORC devices using a predetermined parameter” and “a means for compar[ing] use

of said ORC devices to said expected life span” could be substituted with no change in the meaning of the claim language.

The Court further finds Defendant’s proposed construction of Terms 26 and 27 appropriate. Term 26 is construed to have a function of “tracking use of at least one of said ORC devices using a predetermined parameter” and a corresponding structure of “a database management system within a digital front end (DFE) controller 104, coupled to each ORC device and a computer, that is programmed to perform steps 412 and 414 of Fig. 4 which are described at 3:29-4:61, 13:36-44.” (Dkt. 162-8 at ¶ 111). Term 27 is construed to have a function of “comparing use of said ORC devices to said expected life span . . . where said expected life span for a single of said ORC devices is the shortest expected life span” and a corresponding structure of “a database management system within a digital front end (DFE) controller 104 that is programmed to perform steps 416-417 of Fig. 4 or steps 314-316 of Fig. 3, as described at 10:26–11:12.” (*Id.*).

S. Term 29

Term 29 is found in claims 1 and 16 of the ‘239 Patent: “movably supported pressure roller carriers . . . being movable between a contact position and a non-contact position.” (Dkt. 155-2 at 14-15). Plaintiff argues that this Term requires no further construction (*id.*), while Defendant contends that it should be construed as “supports for pressure rollers and counter rollers that are configured to move between a position in which each pressure roller

and each opposing counter roller touch and a position in which each pressure roller and each opposing counter roller do not touch” (Dkt. 162-2 at 9).

The heart of the parties’ dispute as to Term 29 is whether the contact position requires every pressure roller and counter roller to be physically touching. (*See* Dkt. 164 at 13)⁶. The Court agrees with Defendant that the language of the ‘239 Patent supports its contention that every pressure roller and its respective counter roller must touch in the contact position. In particular, claim 1 of the ‘239 Patent is clear that each pressure roller carrier supports only one pressure roller and further that the pressure roller carriers are connected to a shared actuation device that moves them into the contact/non-contact position. (*See* Dkt. 155-16 at 14). Further, the specification explains that the purpose of the shared actuation device is to move the pressure rollers “simultaneously . . . relative to [their] respective counter rollers.” (*Id.* at 10). In other words, the intrinsic evidence is clear that the pressure rollers move into and out of the contact position together. For these reasons, the Court adopts Defendant’s proposed construction of Term 29.

T. Term 30

Term 30 is found in claims 1 and 15 of the ‘239 Patent: “biasing unit.” (Dkt. 155-2 at 15). Defendant argues that Term 30 is a means-plus-function limitation. (Dkt. 162 at 33).

⁶ At the claim construction hearing, Plaintiff conceded that the “contact position” requires physical touching, which is the other issue raised in the parties’ briefing.

Term 30 does not use the word “means” and so the rebuttable presumption that it is not a means-plus-function limitation applies. “Unit” may be a nonce word for purposes of determining whether a disputed claim term is a means-plus-function limitation. *See Diebold Nixdorf, Inc. v. Int’l Trade Comm’n*, 899 F.3d 1291, 1298 (Fed. Cir. 2018) (finding term “cheque standby unit” to be means-plus-function limitation). However, where “unit” is used with a modifier that “imparts structural significance” to a person of skill in the art, it is not a means-plus-function limitation. *Canon, Inc. v. TCL Elecs. Holdings Ltd.*, No. 2:18-CV-546-JRG, 2020 WL 2098197, at *15 (E.D. Tex. May 1, 2020) (finding “control unit” not a means-plus-function limitation).

Here, Defendant has not rebutted the presumption that “biasing unit” is not a means-plus-function limitation, because it has pointed to no evidence regarding whether a person of ordinary skill in the art would understand “biasing” to impart structural significance in this context. While it is true that the presumption is not strong, there must be some evidence to overcome it. *See Advanced Ground Info. Sys., Inc. v. Life360 Inc.*, 830 F.3d 1341, 1347 (Fed. Cir. 2016) (“In determining whether this presumption has been rebutted, the challenger must establish by a preponderance of the evidence that the claims are to be governed by § 112, ¶ 6.”). The Court agrees with Plaintiff that Term 30 takes its plain and ordinary meaning.

U. Term 31

Term 31 is found in claims 1 and 16 of the ‘239 Patent: “actuation element.” (Dkt. 155-2 at 16). Defendant argues that Term 31 is a means-plus-function limitation. (Dkt. 162-2 at 10).

The Court finds that Defendant has not rebutted the presumption that Term 31 is not a means-plus-function limitation. The Federal Circuit has recognized “element” as a nonce word that “may invoke § 112, para. 6.” *Williamson*, 792 F.3d at 1350. However, in this case, Dr. McCarthy has persuasively opined that a person of ordinary skill in the art would understand the modifier “actuation” as imparting structural significance, because “actuators . . . and the elements that connect them to other components are common in printers[.]” (Dkt. 163-3 at ¶ 106). As Dr. McCarthy notes, claim 1 of the ‘239 Patent expressly describes the actuation element as “connecting at least two pressure roller carriers to a shared actuation device.” (*Id.* at ¶ 109 (quotation marks omitted)). Dr. Reinholtz’s contrary opinion that a “connector” is merely a restatement of the function of connecting (Dkt. 164-3 at ¶ 61) is not persuasive. As the Federal Circuit has made clear, “[m]any devices take their names from the functions they perform.” *Greenberg*, 91 F.3d at 1583 (giving as examples “filter,” “brake,” “clamp,” “screwdriver,” and “lock”).

However, the Court agrees with Defendant that Plaintiff’s proposed construction of “actuation element” as “an element that actuates” (*see* Dkt. 155-2 at 16) is not consistent with the claim language or Dr. McCarthy’s analysis. Instead, the Court construes

“actuation element” as “an element that connects an actuation device to a separate component,” consistent with the claim language and the understanding of a person of ordinary skill in the art, as identified by Dr. McCarthy.

V. Terms 32 and 44

The parties make related arguments about Terms 32 and 44. Term 32 is found in claims 1, 51, and 62 of the ‘314 Patent: “display.” (Dkt. 155-2 at 16). Term 44 is found in claims 1, 12, 23, and 29 of the ‘756 Patent: “display.” (*Id.* at 21). Plaintiff contends that Terms 32 and 44 take their plain and ordinary meaning, while Defendant argues they should be construed as “a monitor that may present a graphical user interface.” (Dkt. 162-2 at 10, 13).

The parties’ dispute is over whether “display” should be limited to physical hardware, or if it can also include the software graphical user interface (“GUI”). Plaintiff argues that the language of the ‘314 and ‘756 Patents makes clear that there is a distinction between the “display” and a “display device” such as a monitor. (Dkt. 155 at 20). Defendant notes that Plaintiff had originally proposed “a monitor that may present a graphical user interface” as the plain and ordinary meaning of “display” (*see* Dkt. 162-3 at 57 (Plaintiff’s Supplemental Preliminary Claim Constructions)) and further notes that the language of the ‘314 Patent identifies a GUI display that is in turn “displayed on the job preparation station . . . display” (Dkt. 164 at 14).

The Court finds Defendant’s proposed construction of Terms 32 and 44 consistent with the language of the ‘314 and ‘756 Patents. As Defendant correctly notes, the specification of the ‘314 Patent clearly distinguishes between the GUI, which is part of the software desktop, and the display, which displays the “workflow functionality and visual representations.” (Dkt. 155-7 at 17). The Court construes Terms 32 and 44 as a monitor that may present a graphical user interface.

W. Terms 33 and 45

Term 33 is found in claims 1, 51, and 62 of the ‘314 Patent: “object.” (Dkt. 155-2 at 16). Term 45 is found in claim 1 of the ‘756 Patent: “object.” (*Id.* at 21). Although the parties originally had a dispute as to these terms, Defendant now agrees with Plaintiff “that the Court need not construe terms 33 and 45 (‘object’) other than that it bears its plain and ordinary meaning.” (Dkt. 162 at 19 n.5). The Court accordingly does not further analyze Terms 33 and 45.

X. Terms 34, 46, and 48

The parties make related arguments regarding terms 34, 46, and 48. Term 34 is found in claims 1 and 26 of the ‘314 Patent: “a first user input device for selectively associating.” (Dkt. 155-2 at 17). Term 46 comes from claims 1 and 12 of the ‘756 Patent: “a first user input device for selectively associating.” (*Id.* at 21). Term 48 comes from claims 1 and 12 of the ‘756 Patent: “a second user input device for creating said page [object/entity].” (*Id.* at 22).

As to Terms 34 and 46, Plaintiff proposes that they be construed as “a graphical mechanism displayed on the interface for receiving inputs that associate representation,” while Defendant argues they should be construed as “a mouse, keyboard, or other hardware device that allows a user to selectively associate.” (Dkt. 162-2 at 10, 13). As to Term 48, Plaintiff contends that no construction beyond the plain and ordinary meaning is necessary (Dkt. 155-2 at 22), while Defendant argues it should be construed as “a menu, a dialog box, or a drag and drop function that a user may interact with using the first user input to create page objects” (Dkt. 162-2 at 13).

The Court agrees with Defendant that the clear language of the ‘314 Patent dictates that the “first input device” will consist of hardware, because such input device must allow the user the ability to selectively associate—in other words, without hardware, there is no mechanism for the user to interact with the software. However, the Court sees no need to identify particular types of hardware such as a mouse or keyboard, and instead construes Terms 34 and 46 as a hardware device that allows a user to selectively associate.

Turning to Term 48, the Court agrees with Plaintiff that the claim language does not require that the second user input device interact with the first user input device and that there is thus no reason the second user input device must be limited to “the aspects of the GUI used to create page objects.” (Dkt. 162 at 19). Indeed, at the claim construction hearing, Defendant acknowledged that the second user input device could be either

hardware or software. The Court finds that Term 48 takes its plain and ordinary meaning of a device that allows a user to create said page object/entity.

Y. Term 35 and Term 47

The parties make related arguments as to Terms 35 and 47. Term 35 is found in claims 1 and 26 of the ‘314 Patent: “selectively associating at least two of said first, second and third visual representations.” (Dkt. 155-2 at 17). Term 47 is found in claims 1 and 12 of the ‘756 Patent: “selectively associating at least two of said first, second and third visual representations.” (*Id.* at 22). Plaintiff contends that no construction of these Terms beyond their plain and ordinary meaning is necessary, while Defendant argues that they should be construed as “creating a visual relationship between at least two of said first, second and third visual representations.” (Dkt. 162-2 at 10, 13).

The dispute between the parties is whether “selectively associating” means creating a visual indication of relationship. The Court agrees with Defendant that the claim language necessarily indicates that the selective association must be manifested visually. As Defendant points out, claim 1 of the ‘314 Patent elsewhere expressly separately claims the internal association, and there is no other plausible manner in which a user could create a selective association between visual representations. (Dkt. 162 at 19-20); *see Ethicon Endo-Surgery, Inc. v. U.S. Surgical Corp.*, 93 F.3d 1572, 1578 (Fed. Cir. 1996). The Court construes these terms as creating a visual relationship between at least two of said first, second, and third visual representations.

Z. Term 36 and Term 49

Term 36 is found in claim 1 of the ‘314 Patent: “wherein association of said first, second and third visual representations results in association of said respective objects.” (Dkt. 155-2 at 17). Term 49 is found in claims 1 and 12 of the ‘756 Patent: “wherein association of said first, second and third visual representations results in association of said respective objects.” (*Id.* at 22).

The parties no longer have a dispute as to the construction of Terms 36 and 49; instead, as confirmed at the claim construction hearing, they agree that the plain language of these terms requires association of each of the three visual representations with the other. (*See* Dkt. 155 at 22; Dkt. 162 at 20). The Court construes these Terms accordingly.

AA. Terms 38-41

The parties make related arguments as to Terms 38 through 41. Term 38 is found in claim 62 of the ‘314 Patent: “means for receiving and formatting instructions for formatting said content, said formatting instructions comprising instruction means for subdividing said content into one or more pages.” (Dkt. 155-2 at 17). Term 39 is found in claim 62 of the ‘314 Patent: “means for receiving output instructions for controlling output of said content to an output device.” (*Id.* at 18). Term 40 is found in claim 62 of the ‘314 Patent: “means for representing said content and said formatting instructions on a display as a first manipulatable object.” (*Id.* at 19). Term 41 is found in claim 62 of the ‘314

Patent: “means for representing said output instructions on said display as a second manipulatable object.” (*Id.*).

“The parties agree that each of these claim terms is a [means-plus-function] limitation and do not substantively disagree on the claimed functions.” (Dkt. 162 at 34). However, the parties disagree as to the corresponding structure for each of these Terms. Defendant contends that the only corresponding structure for these Terms is a “generic computer with no structural algorithm” and that claim 62 of the ‘314 Patent is accordingly indefinite. (Dkt. 162-2 at 11-12).

“[A] ‘computer-implemented means-plus-function term is limited to the corresponding structure disclosed in the specification and equivalents thereof, and the corresponding structure is the algorithm.’” *Aristocrat Techs. Australia Pty Ltd. v. Int’l Game Tech.*, 521 F.3d 1328, 1333 (Fed. Cir. 2008) (quoting *Harris Corp. v. Ericsson Inc.*, 417 F.3d 1241, 1253 (Fed. Cir. 2005))⁷. The algorithm may be expressed “in any understandable terms including as a mathematical formula, in prose, or as a flow chart, or in any other manner that provides sufficient structure.” *Finisar Corp. v. DirecTV Grp., Inc.*, 523 F.3d 1323, 1340 (Fed. Cir. 2008) (citation omitted). However, where the patent does not disclose any algorithm at all, the computer-implemented means-plus-function limitations are indefinite. *Aristocrat*, 521 F.3d at 1338.

⁷ The Federal Circuit has defined “algorithm” as “a sequence of computational steps to follow.” *Ibormeith IP, LLC v. Mercedes-Benz USA, LLC*, 732 F.3d 1376, 1379 (Fed. Cir. 2013).

Here, the Court agrees with Defendant that Terms 38-41 are indefinite. In its submissions to this Court, the structure proposed by Plaintiff as to these Terms is “a computer network, CPU or processor having a user interface.” (Dkt. 155-2 at 17-19). This is no structure at all. *See Aristocrat*, 521 F.3d at 1333 (“For a patentee to claim a means for performing a particular function and then to disclose only a general purpose computer as the structure designed to perform that function amounts to pure functional claiming. Because general purpose computers can be programmed to perform very different tasks in very different ways, simply disclosing a computer as the structure designated to perform a particular function does not limit the scope of the claim to ‘the corresponding structure, material, or acts’ that perform the function, as required by section 112 paragraph 6.”). Plaintiff’s failure to identify any algorithm that could provide the necessary structure for these means-plus-function limitations supports the conclusion that they are indefinite.

In its opening claim construction brief, Plaintiff pointed to particular portions of the specification of the ‘314 Patent that it claims disclose the necessary algorithm. (*See* Dkt. 155 at 10-12). Plaintiff’s arguments cannot bear scrutiny. For example, with respect to Term 38, Plaintiff points to portions of the specification that state the workflow management software “is capable of receiving input from various sources” and of “accept[ing]” documents in different forms, and that the workflow management software further “provides OMDA support for interfacing with document libraries. . . .” (*Id.* at 10). These portions of the specification do not provide the necessary algorithm, because they

simply describe what the workflow software does, and not the steps it takes to perform those functions. The same is true of the portions of the specification identified by Plaintiff with respect to Terms 39 through 41. (*See id.* at 10-12). “Where the specification discloses no algorithm for the computer-implemented means to perform the claimed function, the means-plus-function claim limitation lacks sufficient structure under § 112 ¶ 6 and is indefinite under § 112 ¶ 2.” *Ibormeith IP, LLC v. Mercedes-Benz USA, LLC*, 889 F. Supp. 2d 677, 684 (D.N.J. 2012), *aff’d*, 732 F.3d 1376 (Fed. Cir. 2013).

The Court recognizes that its conclusion conflicts with a decision recently entered in *Midwest Athletics & Sports All. LLC v. Ricoh USA, Inc.*, No. CV 19-514, Dkt. 175 (E.D. Pa. Oct. 21, 2020) (the “*Ricoh* Claim Construction Decision”). The *Ricoh* matter was also commenced by Plaintiff and involves some of the Asserted Patents. In its recently issued claim construction decision, the *Ricoh* court considered the same claim terms identified herein as Terms 38-41, and concluded that “[a]lthough the [‘314] patent is not a model of clarity, it does include information in the specification,” including flowcharts, that provides “structure from which a person skilled in the art could determine the scope of the invention.” *Id.* at 13-14. Specifically, the *Ricoh* court found that the corresponding structure for each of Terms 38-41 is “workflow software with a user interface.” *Id.*

The *Ricoh* court’s conclusion was driven by the fact that the defendant in that matter offered “no evidence of any kind regarding knowledge of persons skilled in the art who might know and understand what structure corresponds to the means limitation.” *Id.* at 14.

The *Ricoh* court concluded that this “omission doom[ed] [the defendant’s] argument because it is [the defendant’s] burden to prove indefiniteness by clear and convincing evidence.” *Id.* The *Ricoh* court relied on the Federal Circuit’s decision in *Elcommerce.com v. SAP AG*, 745 F.3d 490 (Fed. Cir. 2014) to support this conclusion.

The Court agrees with Defendant that the *Ricoh* court’s reliance on *Elcommerce* was misplaced. Initially, the Court notes that the Federal Circuit’s opinion in *Elcommerce* was subsequently vacated. *See Elcommerce.com, Inc. v. SAP AG*, 564 F. App’x 599, 600 (Fed. Cir. 2014). Moreover, as the dissenting judge in *Elcommerce* explained, the holding in *Elcommerce* that the defendant “was required to provide expert testimony to prove indefiniteness” was directly contrary to prior Federal Circuit precedent holding that where “the asserted means-plus-function claims . . . are directed to a special-purpose computer and thus require a corresponding algorithm in the specification” and “no algorithm is disclosed,” the “‘total absence of structure’ renders the claims invalid for indefiniteness, and expert testimony is neither required nor permitted to supply the absent structure.” *Elcommerce*, 745 F.3d at 506-07 (Wallach, J., dissenting in part) (quoting *Default Proof Credit Card Sys., Inc. v. Home Depot U.S.A., Inc.*, 412 F.3d 1291, 1302 (Fed. Cir. 2005) and citing *Noah Systems, Inc. v. Intuit Inc.*, 675 F.3d 1302 (Fed. Cir. 2012)). The Federal Circuit reiterated this holding in the later case of *EON Corp. IP Holdings LLC v. AT&T Mobility LLC*, 785 F.3d 616 (Fed. Cir. 2015), explaining that in a case where the patent’s “specification discloses no algorithms, . . . the skilled artisan’s knowledge is irrelevant.”

Id. at 624. The Court agrees with Defendant that Federal Circuit precedent provides that in a case such as this, where there is no algorithm set forth in the patent specification, expert testimony is not required to meet the burden of showing indefiniteness.

Further, the Court finds that the structure identified by the *Ricoh* court, which Plaintiff urged this Court to adopt at the claim construction hearing, does not constitute the necessary algorithm. The *Ricoh* court stated that the structure was “workflow software with a user interface.” *Ricoh* Claim Construction Decision at 13-14. “Simply reciting ‘software’ without providing some detail about the means to accomplish the function is not enough.” *Finisar Corp.*, 523 F.3d at 1340-41. The portions of the ‘314 Patent that the *Ricoh* court listed in its claim construction decision, *see Ricoh* Claim Construction Decision at 13-14, do not provide that necessary detail. Instead, they describe the functions performed by the workflow software, but do not set forth any algorithm that sets forth how those functions are achieved.

Terms 38-41 fall into the category of computer-implemented means-plus-function limitations with a complete absence of corresponding structure found in the specification. Accordingly, they are indefinite as a matter of law, and so is claim 62 of the ‘314 Patent. *Cardiac Pacemakers, Inc. v. St. Jude Med., Inc.*, 296 F.3d 1106, 1114 (Fed. Cir. 2002) (“[T]he specification discloses no structure that corresponds to the claimed function. This renders the claim, and the claims depending from it, invalid for indefiniteness. This is so notwithstanding the presumption of validity.”).

BB. Term 42 and Term 43

The parties make related arguments as to Terms 42 and 43. Term 42 is found in claim 62 of the '314 Patent: “means for selectively associating said first manipulatable object with said second manipulatable object to associate said output instructions with said content and formatting instructions.” (Dkt. 155-2 at 20). Term 43 is found in claim 62 of the '314 Patent: “means for representing said association on said display as a third manipulatable object.” (*Id.* at 21).

Again, the parties agree that Terms 42 and 43 are means-plus-function limitations and “do not substantively disagree on the claimed functions.” (Dkt. 162 at 36). Instead, the dispute is again as to whether the specification of the '314 Patent adequately sets forth the algorithm for these Terms. Having already concluded that claim 62 of the '314 Patent is indefinite for the reasons set forth above, the Court need not and does not reach these disputes.

CC. Term 50

Term 50 is found in claims 1, 5, and 11 of the '9005 Patent: “ordered media.” (Dkt. 155-2 at 22). Plaintiff contends that no construction beyond plain and ordinary meaning is called for (*id.*), while Defendant proposes a construction of a “set of ordered sheets, such as tabs, that have different physical characteristics than the paper for the main body” (Dkt. 162-2 at 14).

The parties' primary dispute is whether "ordered media" can include a scanned image held in computer memory, or whether it must be physical. The Court agrees with Defendant that "ordered media" must be physical. The specification of the '9005 Patent makes plain that the "ordered media" are physical, describing the manner in which they may be inserted and how they may be scanned. (Dkt. 155-8 at 19-120). As Defendant correctly notes, it would be nonsensical to scan an already electronic set of ordered media.

However, the Court finds that Defendant's proposed construction is unnecessarily complicated, and that the term "media" does not need additional elaboration. Instead, the Court construes Term 50 as a set of ordered physical media.

DD. Term 51

Term 51 is found in claims 1 and 4 of the '9005 Patent: "input source." (Dkt. 155-2 at 22). Plaintiff contends that Term 51 takes its plain and ordinary meaning, while Defendant argues for a construction of "a tray, inserter, or other physical container configured to hold or receive physical paper media." (Dkt. 162-2 at 14).

The dispute as to this Term is again whether the "input source" must be a physical container or if it can encompass computer memory. Having concluded that the ordered media must be physical, the Court necessarily finds that the input source, the purpose of which is to hold the ordered media, must be physical. However, the Court rejects Defendant's proposal that the input source must be configured for paper media specifically and further finds no need to call out specific types of containers such as trays and inserters.

The Court construes Term 51 as a physical container configured to hold or receive physical media.

EE. Term 52

Term 52 is found in claim 1 of the ‘9005 Patent: “a user interface having an input device.” (Dkt. 155-2 at 22). Plaintiff proposes that Term 52 be construed as “a user interface having a graphical mechanism displayed on the interface to select the ordered media from a paper catalog and to preselect a first part of the ordered media set to be used in a print job and a second unwanted part of the ordered media set to be discarded” (*id.* at 22-23), while Defendant proposes it be construed as “a graphical user interface in communication with a keyboard, mouse, or trackball” (Dkt. 162-2 at 14).

This Term presents another dispute as to whether a physical embodiment is required. The Court agrees with Defendant that the language of claim 1 of the ‘9005 Patent indicates that the input device must be physical. The purpose of the input device is to allow the user to make inputs into the software interface. The specification confirms this understanding. *See GPNE Corp. v. Apple Inc.*, 830 F.3d 1365, 1370 (Fed. Cir. 2016) (“We have recognized that when a patent ‘repeatedly and consistently’ characterizes a claim term in a particular way, it is proper to construe the claim term in accordance with that characterization.”). Nothing in the language of the ‘9005 Patent suggests that the input device is anything other than physical. However, the Court does not find that the input device is limited to “a keyboard, mouse, or trackball,” as proposed by Defendant. Instead, it construes Term 52

as a user interface in communication with a physical device with which a user may make inputs.

FF. Term 54

Term 54 is found in claims 1, 5, and 11 of the ‘9005 Patent: “send . . . part of the ordered media set directly to the . . . output.” (Dkt. 155-2 at 23). Plaintiff contends that no further construction is required and that this Term takes its plain and ordinary meaning. (*Id.*). Defendant argues that Term 54 should be construed as “transmit part of the ordered media to the job output without receiving an image from the print engine.” (Dkt. 162-2 at 14).

As to this Term, the parties’ dispute is whether sending the ordered media “directly” to the output means that such ordered media cannot stop to be printed on. The Court agrees with Defendant that the specification of the ‘9005 Patent is clear that “directly” in this context means “without receiving an image from the print engine.” (Dkt. 162 at 23 (quoting ‘9005 Patent at col. 14, ll. 36-41)). The Court construes Term 54 as meaning to transmit part of the ordered media to the job output without receiving an image from the print engine.

GG. Terms 55 through 58

The parties make related arguments as to Terms 55 through 58. Term 55 is found in claim 11 of the ‘9005 Patent: “means for associating the ordered media with an entry in a paper catalog in response to an input on an interface.” (Dkt. 155-2 at 23). Term 56 is

found in claim 11 of the ‘9005 Patent: “means for pre-selecting a first part of a set of the ordered media to be used in a print job in response to another input on the interface.” (*Id.* at 24). Term 57 is found in claim 11 of the ‘9005 Patent: “means for determining a second unwanted part of the ordered media set to be discarded.” (*Id.*). Term 58 is found in claim 11 of the ‘9005 Patent: “means for configuring the printing system to send the first part of the ordered media set directly to a first job output and the second part of the ordered media set directly to a second job output.” (*Id.* at 25).

This is another set of Terms where the parties agree that they are means-plus-function limitations and “do not substantively disagree on the claimed functions.” (Dkt. 162 at 37). Instead, again, the issue is whether an appropriate corresponding structure can be found in the specification, or if instead the Terms (and the claim they are found in) are indefinite.

The Court’s analysis of Terms 55-58 largely mirrors its analysis of Terms 38-41. Terms 55-58, like Terms 38-41, are computer-implemented means-plus-function limitations where the “structure” proffered by Plaintiff (“a printing system with a computer network, CPU or processor having a user interface” or just “a computer network, CPU or processor having a user interface” (Dkt. 155-2 at 23-25)) is no structure at all. The specification of the ‘9005 Patent nowhere discloses an algorithm to provide the necessary structure. Accordingly, Terms 55-58, and claim 11 of the ‘9005 Patent, are indefinite.

HH. Term 59

Term 59 is found in claims 1 and 2 of the ‘974 Patent: “receiving the plurality of documents in electronic form from a job submission station operator.” (Dkt. 155-2 at 26). Plaintiff argues that plain and ordinary meaning governs as to Term 59, with no further construction necessary. (*Id.*). Defendant contends that Term 59 should be construed as “receiving electronic documents from a separate electronic storage device sent by a user of the job submission station.” (Dkt. 162-2 at 16).

The parties have two disputes as to Term 59: (1) whether it requires documents to be sent by a user of the job submission station; and (2) whether the documents must be sent from a separate storage device. The Court agrees with Defendant as to each of these disputes. First, the plain claim language states that the documents are received from the operator of the job submission station. Second, by definition, documents cannot be “received” unless they are housed in a different location. Further, because the documents must be received in electronic form, they must be transmitted in electronic form, which necessarily requires that they exist in electronic form on a separate electronic storage device. The Court adopts Defendant’s construction of Term 59.

II. Term 60

Term 60 is found in claims 1 and 2 of the ‘974 Patent: “alternate output device.” (Dkt. 155-2 at 26). Plaintiff contends that Term 60 takes its plain and ordinary meaning and no further construction is necessary. (*Id.*). Defendant argues that Term 60 should be

construed as “printer that is different from a production device that prints the main portion of a document.” (Dkt. 162-2 at 16).

Here, the parties’ dispute is whether the alternate output device is a “printer.” Plaintiff argues that because the output devices depicted in the specification “demonstrate capabilities beyond printing” (Dkt. 163 at 6), it is inappropriate to so limit the output device. Defendant contends that it is not disputing such point, but that the alternate output device must “at least be a printer, even if it can also do other things.” (Dkt. 164 at 16). This is a mere semantic dispute—namely, whether “printer” means a device capable only of printing and nothing more—and the Court solves it by construing Term 60 as a device capable of printing that is different from a production device that prints the main portion of a document. The parties confirmed at the claim construction hearing that this construction would resolve their dispute.

JJ. Term 61

Term 61 is found in claims 1 and 2 of the ‘974 Patent: “exception page.” (Dkt. 155-2 at 26). Plaintiff urges the Court to construe Term 61 as a “page that is separate from a main portion of a printed end document” (*id.*), while Defendant proposes a construction of a “page to which modifications are applied, overriding specific instances of the original document formatting” (Dkt. 162-2 at 16).

The Court agrees with Defendant that an exception page is not any page that is printed separately from the main portion of a printed document. As Defendant correctly

notes, the specification of the ‘974 Patent explains that exception pages involve alterations to the document. (Dkt. 163 at 15-16 (quoting ‘974 Patent at col. 6, ll. 49-60)). However, that same section of the specification contradicts Defendant’s contention that an exception page must override specific instances of the original document formatting, stating only that the alterations “typically override specific instances of the original document formatting as set by the customer.” (*Id.*). Accordingly, the Court adopts portions of both parties’ proposals and construes Term 61 as a page to which modifications are applied and that is separate from a main portion of a printed end document.

KK. Term 62

Term 62 is found in claims 1 and 2 of the ‘974 Patent: “automatically.” (Dkt. 155-2 at 26). Plaintiff contends that this Term takes its plain and ordinary meaning with no additional construction necessary (*id.*), while Defendant contends it should be construed as “without human control or initiation” (Dkt. 162-2 at 17).

At the claim construction hearing, Plaintiff made it clear that it believes the term automatically can include processes requiring manual human intervention. Thus, the Court agrees with Defendant that, in this case, automatically cannot be left unconstrued. However, the Court finds that Defendant’s construction of automatically is overly narrow, as it excludes the potential for human initiation. The Court notes that “the general and technical dictionary definitions of ‘automatically’ . . . prohibit human intervention after a process has been initiated.” *Robert Bosch LLC v. Snap-On, Inc.*, No. 12-11503, 2013 WL

4042664, at *14 (E.D. Mich. Aug. 9, 2013) (emphasis added) (construing automatically to mean “starting, operating, moving, etc. independently or by itself”), *aff’d*, 769 F.3d 1094 (Fed. Cir. 2014). In this case, taking into account the intrinsic evidence and the generally understood definition of automatically, the Court construes Term 62 to mean “without human intervention after initiation.”

LL. Term 64

Term 64 is found in claim 2 of the ‘974 Patent: “input device.” (Dkt. 155-2). This is another instance where the parties disagree as to whether a physical embodiment is required. The Court finds that it is. The language of claim 2 requires that input device be connected to the computer, which is only possible if the input device is physical. (*See* Dkt. 155-6 at 22 (“an input device connected to said computer for said job submission operator to input instructions to said computer”)). The Court construes Term 64 as a physical input device.

IV. The Undisputed Terms

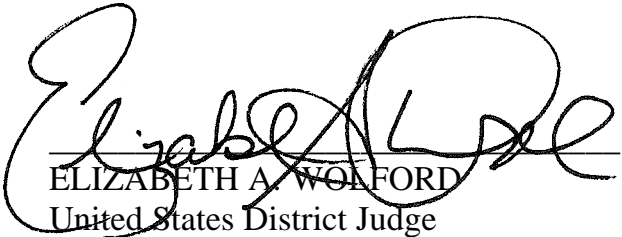
In their Joint Statement, the parties identified three terms as to which they agreed on construction: (1) the term “counter rollers,” found in claims 1, 2, and 16 of the ‘239 Patent, which the parties agree should be construed as “a set of rollers positioned opposite a set of pressure rollers”; (2) the term “a base,” found in claim 1 of the ‘022 Patent, which the parties agree should be construed as “a bottom of a printing apparatus”; and (3) the term “a transparent platen for supporting a document to be scanned,” found in claims 1,

12, and 14 of the '113 Patent, which the parties agree should be construed as “a transparent surface upon which a document to be scanned lies.” (Dkt. 128 at 2). The Court adopts the parties’ proposed constructions as to these terms.

CONCLUSION

The parties’ claims construction disputes are resolved as set forth above. The Court has annexed hereto as Exhibit A a chart setting forth its constructions of the disputed claim Terms.

SO ORDERED.


ELIZABETH A. WOLFORD
United States District Judge

Dated: December 28, 2020
Rochester, New York